November-December, 1996

PROGRAM MANAGER

Cost As an Independent Variable

13th Annual Program Managers Symposium

Outsourcing Government Functions

"WE HAVE TO BE ABSOLUTELY OPEN IN WHAT WE DO"

Trust

Negotiation

PEO System

Walking the Talk

Maritime Industrial Base

Decentralized Acquisition

Leadership & Innovation

Health of the Workforce

Promotion from Within

Fairness & Objectivity

John W. Douglass
First DSMC Alumnus to Become an SAE

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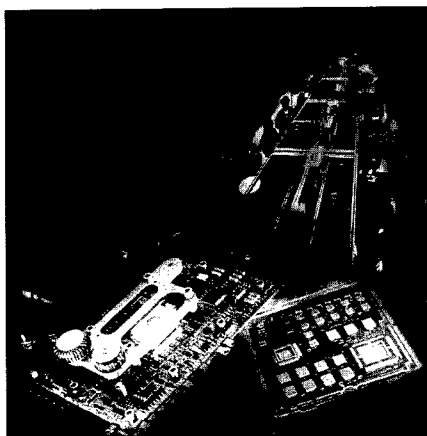
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Applying Commercial Processes to Defense Acquisition
Mary E. Kinsella
Michael E. Heberling
If the DoD is to attract world-class manufacturers, it must become a world-class customer.

ALSO

John Douglass, Assistant Secretary of the Navy for Research, Development, & Acquisition Speaks to *Program Manager*

Meet DSMC's First Graduate to Become a Service Acquisition Executive

John Douglass is a big man, an imposing figure, with an equally imposing resumé. He radiates a style of "make yourself at home," easygoing affability that makes him easy to talk to and interview. However, those who would seek to exploit his good nature and extremely caring personality would soon learn this man possesses a keen mind, a wealth of experience at all levels of government, integrity, honesty, and an unswerving commitment to his workforce, particularly those warfighters upon whose lives his decisions may depend.

The Key is Trust

Douglass is a strong-minded man — one who has definite ideas on how he will manage the Navy's acquisition program well into the next century. Throughout the interview, he constantly returned to the theme of trust — trust between his office, the Congress, and Senate; trust between him and his subordinates; trust between him and the Navy Comptroller; and trust between him and the professional acquisition workforce that he will do the right thing — not only for them [the warfighters and professional acquisition workforce], but also for the welfare of our nation.

Douglass, although a retired career Air Force officer, has a breadth of experience that reaches across all Services.

LeBoeuf, Holder of the Navy Chair, DSMC Executive Institute, conducted the interview with Secretary Douglass on behalf of the DSMC Visual Arts and Press.

He is a man who recognizes that he did not rise to the top alone, and credits many individuals throughout the interview for their key roles in his career progression. He attributes the bulk of his success to the senior leaders he was exposed to throughout his career and the people who trust his leadership: "I get a lot of positive feedback from working-level people that they trust me because they know that I've done their kinds of jobs. I draw strength from that trust."

Program Manager is indeed privileged to present our readers with this candid, reflective, at times personal, and undeniably knowledgeable interview with the Navy's Senior Acquisition Executive, John Douglass.

Program Manager: *Could you tell our readers about your background and the types of jobs and experience that led to your appointment as the Assistant Secretary of the Navy for Research, Development, and Acquisition?*

Douglass: My career in the military basically covered two areas: First, the bulk of my early career was in pure acquisition jobs. I had a variety of acquisition jobs, starting out as a contracting officer. Along the way, I also became involved in test and evaluation, was a procurement staff officer, and basically, did lots of the jobs in a program office. For example, I was a Chief of Program Control; I was a Data Management Officer (remember the old Data Management Officer); and I've also been involved in logistics. I have an engineering degree so I've been in engineering jobs early on in my career. I've pretty much done most of the functions that are done in systems acquisition. Also, I've been a Base Procurement Officer; I've been in foreign procurement; I've spent a considerable amount of my career in the so called "black world" and "codeword" acquisition.

The second and latter part of my career involved some very, very high-level policy assignments as a senior colonel and as a general that dealt with foreign policy and with acquisition. It's very, very interesting how national security policy and foreign policy overlap with acquisition because it gets you into foreign procurement issues and why we really need the weapon systems that we acquire in the acquisition process. In my 28 years in the Air Force, I had a rich opportunity to learn the skills that are needed to be an acquisition leader.

After I retired from the Air Force, I went to the Senate and had the wonderful opportunity to work with Sena-

tor Sam Nunn, and work that side of the acquisition process. I was the lead staffer on the Science and Technology Subcommittee of the Senate Armed Services Committee and managed all the "black" programs for the Committee. And I was also Senator Nunn's foreign policy advisor for a large part of that time. If you go back and look at my military career – 19 years of the 28 years I was in the Air Force were in Joint programs, a large part of that time with the Navy – when you add it all up, it gave me some very unique qualifications to do this job. One of which, I might mention – to the best of my knowledge, I'm the first graduate of the Defense Systems Management College ever to become a Service Acquisition Executive (SAE). I think I'm the first one and the only one who has made it from the bottom of the acquisition system to the top.

Program Manager: *Yes, one could truly say that you are the only SAE that sort of "walked the talk" per se in the Navy. You really have held all the right jobs. That brings us to the next question, which you have already expanded on somewhat. Your background is predominantly Air Force as a career military man and then in several key Air Force positions of leadership in the Executive Branch. Would you care to say more about your past concentration of Air Force experience – how has that served you in formulating acquisition policy and strategy for the Navy?*

Douglass: I was fortunate enough in my Air Force career to be in acquisition policy billets on a number of occasions. I was the Director of Acquisition Policy for the Air Force during one tour of duty. From a macro level, acquisition policy was one of the items in my portfolio when I was on the National Security Council staff at the White House.

I know you're aware, Gib, that myself and another staffer by the name of Mike Donnelly, were the two people who came up with the idea of establishing the Packard Commission. Mike was working Goldwater-Nichols issues

John W. Douglass

*Assistant Secretary of the Navy
(Research, Development, and Acquisition)*

John W. Douglass was sworn in as the Assistant Secretary of the Navy for Research, Development, and Acquisition on November 1, 1995. As the Assistant Secretary of the Navy for Research, Development, and Acquisition, and Department of the Navy Service Acquisition Executive, he is responsible for all research, development, and procurement of defense systems satisfying the requirements of the Navy and Marine Corps. He is also responsible for all acquisition policy and procedures within the Department.

Douglass has extensive acquisition experience within the Congress, Department of Defense, and Executive Branch. His most recent assignment was with the Senate Armed Services Committee where he was Foreign Policy Advisor and Science and Technology Advisor to Senator Sam Nunn. He also served as the lead minority staff member, Subcommittee on Defense Acquisition and Technology, responsible for over $15 billion in Technology Based Programs. He was the Committee's Minority coordinator for all codeword programs, and Minority staff member for Defense Conversion and Technology Reinvestment Programs.

At the Department of Defense, Douglass served as the Deputy, U.S. Military Representative to NATO; the Director of Plans and Policy and the Director of Science and Technology, Office of the Secretary of the Air Force.

Douglass also served as the Special Assistant to the Under Secretary of Defense for Acquisition. He managed all codeword acquisition programs and the codeword budget process for the Secretary. He was also the Secretary's personal speechwriter and managed the Secretary's liaison with Congress.

Within the Executive Branch, Douglass served as the Director of National Security Programs for the White House. As Director, he was responsible for formulating National Security Policy on the broad range of national security issues, and was former President Reagan's personal representative to the Packard Commission on Acquisition Reform.

Douglass completed 28 years of Air Force service as a brigadier general. He is a nationally recognized expert in systems acquisition with extensive experience as a contracting officer, engineering officer, test and evaluation officer, program control officer, and research director.

Douglass was born May 2, 1941, in Miami, Florida. He received his undergraduate degree from the University of Florida, and advanced degrees from Texas Tech University and Fairleigh Dickenson University, respectively. He has also done post-graduate work at the Cornell University Center for International Studies, where he was an Air Force Research Fellow with the Peace Studies Program.

Douglass has three children: William Mayer, Laura Noel, and Alexander Augustine. He and his wife reside in Alexandria, Virginia.

Chief Petty Officer Edgar Douglass gave his son, a future Air Force general and Navy Senior Acquisition Executive, this sage advice: "Son, don't ever forget that the noncommissioned officers run the military...don't ever sign for any government property unless you do an inventory."

for President Reagan, and I was working acquisition reform issues for President Reagan. Between Mike and me, we came up with this idea, based on some suggestions from industry, I might add; certainly credit needs to be given where credit is due. Mike and I put together some recommendations to President Reagan that he form a special commission to look at acquisition reform. To his credit, President Reagan accepted our recommendations. That background of policy at the top and actual acquisition experience at the bottom and the middle of the bureaucracy is what I think has been the foundation of my preparation for this job.

Program Manager: How would you describe your leadership style?

Douglass: First of all, I start from the basic premise that my years of negotiating contracts, writing Justifications and Findings, and making budgets are over. It's my job to lead, and that's what I try to concentrate on — actually being a leader. I am very, very keenly aware — I hope more aware than some people used to be when I was a young officer coming up — of the unique treasure of each individual in our system. Each person that's in the acquisition system brings unique things and has unique skills and qualities, and I think it's my job to motivate those people to be all that they can be for the United States Navy. I'm not an acquisition official that's going to try to be heavy-handed with people or embarrass people or make them ashamed of what they have done. I want to concentrate more on the positive.

I have to tell you that in the seven months that I have been in this job, I have found the Navy's acquisition team to be an excellent team. These young program managers that are coming up through our system are really top notch. They're much better than the skill levels that existed when I was a young officer. I think if they know they're going to get fair treatment from me and an honest hearing

of their problems, they will be the same way with their people. I think leaders set the tone for organizations, even big organizations. I try to be ever mindful of that — that I am the leader. I try to set the right tones; to motivate our people in a positive way; and keep their enthusiasm up. I also try to make sure that they know they're going to be treated fairly, no matter how tough the problem they bring to me. I'm not going to shoot the messenger; I'm going to try to concentrate on solving the problems.

We have a document that's given out in the Navy (I believe it's also given out in the Department of Defense); it's called the Program Managers Bill of Rights. I believe very strongly in that. I think if you could characterize my leadership style, it's the style of a person who has been there and done most of these acquisition jobs. I think I have a little more insight than maybe some other people do of what the frustrations and difficulties of life in the middle and the bottom of the bureaucracy are. I try to make sure my people know that I'm aware of those things, and that I'm here to help them solve the problems that they need to solve to make our Navy the best it could be.

Program Manager: We couldn't agree with you more. We've got some really superb program managers in the acquisition system right now. What do you think are the key characteristics that make for a successful program manager?

Douglass: I think program managers have to be leaders; I think they have to be innovators, especially now. This is a unique period of our history where we're basically at peace with the world. It's very difficult to see where future military requirements are going to take us, so innovation has to be one of the foremost qualities. Certainly they have to be able to work with people. Being a program manager involves bringing together a lot of different types of folks into a common goal. They have to not only lead as I said
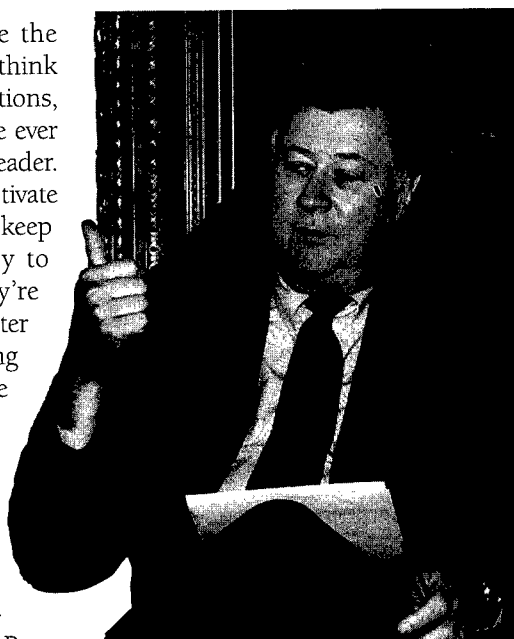
"I want to be No. 1; I want the Congress to perceive us as No. 1; I want the people of the United States to perceive us as No. 1. That's my objective."

before, but they have to be able to get along and understand the views of men and women from all walks of life, and all races, religions, and creeds.

I think they also have to be educated people. The days are past in which you can just come in from the operational forces and be a program manager with no training. I don't allow that to happen in the Navy — at the top or the bottom. There have been instances where senior officers have been recom-

mended to me that had no acquisition experience, and I turned them down because of that lack of acquisition experience. I believe in promoting the top levels of acquisition management from among those who are qualified. I think our program managers have to set the tone there — they have to be the best at their level.

Program Manager: We noted you've been the Navy SAE for about seven months now. What is the biggest difference you notice between working on Capitol Hill with the Senate Armed Services Committee and your duties as the Navy SAE? Was there anything that surprised you?

Douglass: First, let me say that my experience on the Hill was colored by the fact that I worked for probably the finest Senator in the United States Senate, and that's Senator Sam Nunn. His leadership of the Armed Services Committee is so large, and so important over the last 24 years (as I recall that he's been over there), that working for him is not an average experience; it is absolutely working for the best of the best when it comes to Defense. I came from a staff that was a well-managed, elite staff where there was a lot of camaraderie, a lot of working together, a lot of teamwork. I was not the leader there; I was just a member of the team.

Here I am the leader. So there is a big difference from being a team member to being a leader. I can tell you that leadership is a lonely thing. I find this job enormously challenging; it is much broader than my job in the Senate. In the Senate, I had a certain portfolio — it was a very interesting and diverse portfolio because it included science and technology, acquisition, the "black" programs, and foreign policy — but it was not as diverse as the job of being the acquisition official of the U.S. Navy. Here we have airplane programs, surface ship programs, submarine programs, space programs, communications programs, and all of those programs associated with the Marine Corps.

If you look at the responsibility of the Navy acquisition official, it is a microcosm of the Department of Defense. I don't think there is anything that the Department of Defense does that we don't do somehow on a smaller scale within the Department of the Navy. That means that the breadth of this job is huge, and frankly it takes a lot of time; the hours are long. So I guess the major difference is going from being a member of the team to being the leader — and as I said, that's a lonely job at times.

Program Manager: What are your goals and vision for Navy acquisition?

Douglass: My goals are to make Navy acquisition the best that it can be. When people think of acquisition excellence in the government, I want them to think of the U.S. Navy. That's fairly simple. I want to be No. 1; I want the Congress to perceive us as No. 1; I want the people of the United States to perceive us as No. 1. That's my objective.

I believe for that to happen,. I believe that policy of striving to be excellent, striving to be the best within the rules and regulations that all government people have to follow, and striving to be as open, honest, and straightforward with the American people and with the Congress are my goals. I have sub-goals in certain areas that are unique to the Navy, but in the macro sense, that's my objective.

Program Manager: What do you see as the biggest challenge facing the Navy in acquisition?

Douglass: I think the biggest challenge facing the Navy in acquisition is maintaining the Navy's maritime industrial base. I don't think people understand how much pressure the maritime industrial base is under. For a long, long time there hasn't been, frankly, much attention paid to it. Some of my predecessors in this job and others who advised me — you know, the ones who graciously come around and tell you how to run your job — they told me not

to worry about things like the commercial shipbuilding in the United States, for example. I don't agree with that advice — although I respect it — I don't agree with it.

I firmly believe that for the U.S. Navy to have a long-term future, we have to pay attention to the industrial base. We have to make sure that our maritime industrial base — our ability to build and repair capital ships — is maintained. There's a lot of catching up to do in this area. As you probably know, I spend a considerable amount of my time working with other agencies in the government and with the Congress to raise people's awareness that if we don't start pulling together as a nation to invigorate our maritime industrial base, we're going to have some very serious problems downstream.

Program Manager: Let's turn to acquisition reform if we may. Let us ask you for your impressions of acquisition reform in the Navy. Do you believe it will succeed, or is it already succeeding? How tolerant do you think the system will be of failure?

Douglass: I think it is succeeding, and I think a large dose of credit goes to my predecessor, Nora Slatkin, who is over in the Central Intelligence Agency now. Nora laid a wonderful foundation for me to follow on. As you know, Gib, because of my previous experience in the Air Force and because of my experience on the Packard Commission, I've been one of the leaders within the National Security Community in pressing for acquisition reform. I pressed for it when I was in the Senate; I pressed for it when I was in the White House. I am very proud to say that when I arrived in this position, the Navy was committed to acquisition reform in a way that very, very pleasantly surprised me. The credit for that goes to Nora Slatkin who, as I said, laid a wonderful foundation for me to build on. I am building on that. I'm doing everything I can to keep up the momentum on acquisition reform.

As you know, we just had Acquisition Reform Standdown Day. I made six

speeches that day, plus sent a videotape out to some 50 to 60 thousand Navy people all over the world who were doing the standdown that day. I am committed to acquisition reform. But, I think it is only fair and just that I give a lot of the credit for progress in the recent years to Nora who had this job before me.

Program Manager: How would you categorize the health of the acquisition workforce itself?

Douglass: Navy acquisition is going through some traumatic times. Probably the most fundamental thing that's happening that would fall into the "health of the workforce" category is that for the first time in 200 plus years, Navy acquisition is being moved out of the Washington area. Naval Air Systems Command (NAVAIR) is going down to Patuxent River Naval Air Station; Naval Supply Systems Command (NAVSUP) has already moved up to Pennsylvania; Space and Naval Warfare Systems Command (SPAWAR) is going out to San Diego; and Naval Sea Systems Command (NAVSEA) is going over to the Navy Yard. This is a lot of disruption. A lot of people are having to move, and we are going to lose a lot of people because of that move. It is the nature of our civilian workforce to put down roots in the community. And when it comes time to moving all the way across the country like our SPAWAR team is going to have to do, this presents a lot of very difficult problems to a lot of people. And we're going to lose a lot because of that. So I think we will emerge from the next three to four years in which we go through this move as a leaner, younger force. And probably one that needs to be trained, because a lot of the people that we're going to lose are our best, our older, more experienced, more qualified people. We're going to have to pay attention to that problem.

It's really important, Gib, for your readers to understand that I do not in any way begrudge people who feel they can't make these moves. We're

going to do everything possible to find a way to keep them in the Navy family in some way or the other. When I was a lieutenant colonel, or maybe a colonel, my son was in high school and I received orders to move unexpectedly. He had been in 18 schools in 10 years, and he said, "Dad, I'm not going." As a result, he had to board his last two years in high school. I was a single father at the time, and that put a lot of pressure on me. I had to really hustle. I can remember many weekends when I would leave Washington about 4 o'clock in the afternoon and drive all the way to Ithaca, New York, at 80 miles an hour so I could see an 8 o'clock football game that he was in.

Those kind of pressures are difficult for families, and some of them will just say, "We can't do that." And I understand that. I'm dedicated to seeing that as long as the Navy acquisition team is under my stewardship, that we make it through these moves and protect the best interests of all of our people to the best of our ability. But it's going to stress us, and we're going to have to manage our way through this.

Program Manager: Difficult times indeed. Let us turn to Goldwater-Nichols as you mentioned earlier, and ask you for your impression of the Program Executive Officer system or the PEO System and how it's working. Do you think it's a good system that was set up?

Douglass: When you ask me that, that's like asking a guy how his kids are growing! I remember the day that Bill Perry, Paul Kaminski, and I sat over there in Lafayette Square with Dave Packard, and we cooked up the idea of the PEO system. There's an admiral who used to be the Chief of the Cruise Missile Project named Walt Locke, who was also instrumental in helping us come up with this. I feel a lot of ownership in the PEO system, and I think it's working fine in the Navy. It is a new kind of system that has required all of the Services to
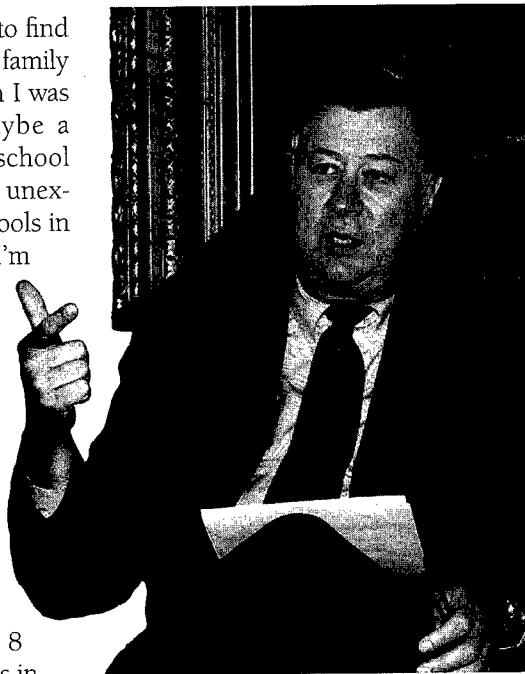
"To the best of my knowledge, I'm the first graduate of the Defense Systems Management College ever to become a Service Acquisition Executive. I think I'm the first one and the only one who has made it from the bottom of the acquisition system to the top."

adjust to different ways of management, but I have found it working well in the Navy.

The PEOs we have in the Navy, both the military and civilian PEOs, are very responsive to my direction. They work well with their Systems Command colleagues. They report directly to me, but they draw a lot of support from the Systems Commands. I have three wonderful Systems Command Commanders right now who understand this PEO system and make it work. It boils down to people's attitudes and the senior leadership in the organization, and I'm happy to tell you that we have the right kind of leadership in the Navy. Our leadership is buttressed by very, very supportive leadership from our Secretary and our Under Secretary of the Navy, who make my job a lot easier. So below me I've got great people, and above me I've got great bosses. With that kind of support, I think I can report to everyone that the PEO system is working in the Navy.

Program Manager: Based on your comments on the PEO system and the Navy acquisition system, we almost think we know the answer to our next question, but we're going to ask it anyway. The Roles and Missions Commission Report and others have recommended that the creation of a central acquisition organization could result in better program management. What are your thoughts or your feelings about going that route?

Douglass: I'll give you an unambiguous answer. I don't agree with it. I've never agreed with it. I didn't agree with it when I was in OSD; I didn't agree with it when I worked for Senator Nunn in the Congress; and I don't agree with it now. So you can't accuse me of not agreeing with it just because I'm in a Service Acquisition Executive's job. Everybody knows (I think over the years everybody has come to this conclusion) that acquisition works best when it is decentralized to the lowest level where intelligent decisions can be made and when it's closest to the warfighters.

When you take it away from the Military Departments and give it to some centralized bureaucracy, in my opinion, you are separating it from the warfighters; you're building ever bigger and wider gaps between the warfighters and the acquisition community; and what are you gaining? It's very difficult to see what you gain from this centralization because, certainly you can't say you're for diffusion of responsibility at the lowest levels when you go to such extreme centralization. So I'm not an advocate for that, I never have been an advocate, and I don't mind publicly stating that.

Program Manager: You're right. No one could accuse you of giving us an ambiguous answer to that question. Let's change the subject to research and development. What are some major ongoing research and development projects that the Navy is involved with?

Douglass: We have a large R&D Program, and they're all important projects to the future of the Navy, but there are some which I think are uniquely interesting right now. For example, our late CNO, Admiral Mike Boorda and I got a project started called the Arsenal Ship program, which I think is a very, very innovative program. It's a joint program between the Navy and the Defense Advanced Research Projects Agency (DARPA), and we're going to do some enormously innovative things.

We're using a lot of the new tools that have been provided under Dr. Kaminski's leadership like Cost As An Independent Variable (CAIV), focusing on life cycle costs. We've set a unit price for the ship, for example, and we've told industry what the unit price is going to be. We've said "design the ship around that." We're focusing on life cycle costs by saying, "you can only have a crew of 50 or less. If you can't design it to operate with 50 or less, don't send your bid in." We're going to use other instruments' authority that DARPA has in the law to make the award. And so we might have a very, very unique and sort of

out-of-the-ordinary contract structure if that's what makes sense for us. So that's one interesting project.

Another program that is taking full advantage of state-of-the-art technology is the New Attack Submarine. As you know, there has been considerable debate about whether the New Attack Submarine is incorporating the latest in technology. I am very confident that it does. There are two things in particular that make this program very exciting. First is the flexibility designed into the submarine both in terms of mission adaptability and future technology insertion. The second is the endorsements received from some of the most prestigious Americans in the science and technology community on the design concept. These two things give me a lot of confidence in the New Attack Submarine program.

To address any concerns about the design, we've set up a Submarine Technology Oversight Committee co-chaired by Dr. Kaminski and me, which includes other senior leaders from within the Navy, the Department of Defense, and industry. This will ensure that no important technology is overlooked. So, I'm very comfortable with the direction we are going on the New Attack Submarine.

We're just starting on our research and development for the SC 21 and our new carrier, the CVX — those are going to be enormously interesting. On the aviation side, the F/A-18 E/F is doing very well, and we're a partner with the Air Force on the Joint Strike Fighter. These are all important projects. Our Marine Corps team has some wonderful new projects — the AAAV, for example. I don't know if you've ever seen it, but that's an amphibious landing vehicle that goes so fast you could water-ski behind it. That's going to be an incredible addition to the Marine Corps' amphibious assault capability. The V-22 is, of course, very important to the Corps. Then there's a host of things that involve new ways to bring information to our fleet.

One of the most innovative programs we have is our Global Broadcast Service. By now everybody knows about these pizza-sized antennas where you can receive 200 channels of TV. Well, we're going to have those on our ships. We'll be able to increase the band width to our ships, I believe, by a thousand percent. So you can imagine a ship commander out there, instead of having a very slow data rate, he or she is going to have this wonderful video receive capability to get intelligence, overall theater awareness, and all kinds of things across what would be the equivalent of two or three hundred channels of TV.

Again, there are a lot of innovative things going on in the Navy today. Probably the most innovative right now is the Arsenal Ship. I like to bring that one up because it makes me think of all the positive things that Mike Boorda stood for.

Program Manager: What do you see for the future of Joint programs, and in your view is the Joint Requirements Oversight Council (JROC) an effective tool for managing Joint programs?

Douglass: Wow! That's a big one. I think Joint programs are the wave of the future. The smaller the defense budget gets, the more it forces us into the natural economies that come from Joint programs. But they are very, very difficult to manage. They're on an order of magnitude more difficult than a single-Service program because you're working in a multi-dimensional management issue.

Incidentally, I think Joint programs with our allies are the wave of the future. One of the tremendous things that Dr. Perry and Dr. Kaminski don't get a lot of credit for is all the work they do in helping us set up Joint programs with our allies. As we speak, Paul is over in Europe right now working on this, and he does a terrific job in helping lay the foundation for Joint programs with our allies that make sense for the Services. I give him great credit for that. I know that he is oper-

ating under the guidance and leadership of Dr. Perry who believes in this. I stayed in touch with Dr. Perry while he was not in government, and he and I corresponded on that subject. I know that he is a tremendous supporter of working together with our allies. As I stated, I definitely think Joint programs are the wave of the future.

As to how the JROC is working, I think it's, in general, working quite well. We have a new Vice Chairman of the Joint Chiefs of Staff, Joe Ralston. As you probably know, Joe, Paul Kaminski, and I were all colonels together. Joe's a terrific guy, and I have enormous confidence in him. I think his leadership in the JROC will ensure its continued success. But they have their work cut out for them too because it's not easy sometimes to harmonize the needs of the three Services. One of the great positive things that has happened in Joint programs during the seven months I've been here is the Tactical UAV program, which we in the Navy manage, but it's a Joint program between the Army and the Navy. And let me tell you, getting the requirements for that thing together was a formidable task. We had to get the Army, the Navy, and the Marine Corps altogether on the same wave length, and that took a long time to do. To his credit, the former Vice Chairman, Bill Owens, was instrumental in making that happen. We have just recently made the award, we have an Advanced Concept Technology Demonstration (ACTD) on that, and it's going to be a dynamite program. But never easy...

Program Manager: Here's a subject that's near and dear to every senior leader's heart — the budget. We know that it's an issue you are tackling in the Navy. Do you feel that you are adequately funded to do the job for which you are charged as the ASN(RD&A)?

Douglass: In general, yes. The budget, however, is a complex issue, and there are ways in the Navy we can improve our administration in the acquisition budget. I'm committed to working

"I am very, very keenly aware...of the unique treasure of each individual in our system. Each person that's in the acquisition system brings unique things and has unique skills and qualities, and I think it's my job to motivate those people to be all that they can be for the United States Navy."

with our Navy Comptroller, Debbie Christie, to make those things happen. I've said it before and I will say it again publicly: I am not in favor of the Comptroller having the unilateral authority to pull money out of our acquisition programs. I think that is a decision that should be made after consultation with me. If you go back and read the Packard Commission report, you will find they wrote a whole chapter on program stability. Of all the things the Packard Commission told the Department of Defense to do, the one piece that didn't get implemented was program stability, and I'm dedicated to doing that.

I want to also emphasize a couple of points about the budget that I think are important. One of them is that I've been very, very pleasantly surprised — not surprised, but then again maybe surprise is the right word — at the positive role and interaction that Debbie Christie, the Navy Comptroller, has played in working with me on this issue. Early on I went to Debbie and explained to her that I thought program stability had not been implemented by the Department, and that I wanted to make some changes in this area. She has worked with me. We have a Process Action Team that's joint between her and me to try and figure out how to make the acquisition budget process go smoother.

You may know that in the past, the Navy had a process in which the Navy Comptroller held what they called quote "hearings," and the acquisition people came over. The posture that they tried to put up was that they were like senators and congressmen, and my acquisition people were somehow some "underlings" who had to come crawling on their knees begging for money. We are not going to do that as long as I'm the Navy Acquisition Executive. We will meet and discuss the budget as equals, and my people are not going to be called to any quote "hearings." So I'm very, very upbeat about the fact that on both sides, in the Comptroller community and in the acquisition community, we're

working together to get at this issue of stability in our acquisition budget.

Now I have to tell you that one of the things we're trying to do, and I mentioned this as a part of my leadership style, is build leadership and build team work based on trust. There's an enormous amount of distrust when it comes to the budget. Every time I give a speech to my acquisition community, a young officer or a young woman or a young man will stand up and ask me, "what are you doing to stop this unilateral taking of money away from our programs?" When I explain to them that I'm fighting for their money and fighting for an equal say at the table when it comes to making financial decisions, I get a standing ovation. That tells you how much people in the acquisition community care about this, and it gives you some idea of the legacy of distrust that is there.

And I might add, too (this may come as no surprise to your readers), that people in this building [Pentagon] have been trained to be distrustful of the Congress, and I think that is a legacy that we absolutely have to stop. We are a democracy; we are a people's Navy; and we are fully open to scrutiny from anybody. So I am trying to make a fundamental change of attitude to bring openness and trust into the acquisition system. I believe the budget is one of the areas where we need to do this. I'm happy to report that the senior leadership of the Navy across the board has been supportive of me. Our operators are very supportive of this. Vice Adm. T. J. Lopez, our Deputy Chief of Naval Operations for Resources, Warfare Requirements, and Assessments, has been a champion at my side on this issue of program stability. So there's a good news story developing here, but it's going to take a lot of work.

Program Manager: We think it's really commendable on your part that you're tackling this issue because it's an issue that really wasn't a part of the acquisition reform agenda, yet is a major issue and really needs focus and attention.

We're going to switch over to a more sensitive topic now, and we're going to ask you what may turn out to be a personal question. It has to do with the fact, as you well know, that the Navy has experienced considerable upheaval in the past few years ranging from the Tailhook investigation, various scandals at the Naval Academy, to the recent suicide of the CNO. From your vantage point, how would you categorize overall the morale of the Department of the Navy?

Douglass: I think morale is good. There are some things that people need to take into consideration when they look at this from a macro point of view. One of them is that the Navy/Marine Corps team has become America's "911" force since the end of the Cold War. We are steaming more hours today than we steamed during the Cold War. We have a higher percentage of our ships at sea than we had during the Cold War. Our people are stressed more and stretched farther than they were during the Cold War. We're carrying this heavier burden now at a time when everything is changing. All of us know how difficult it is to manage in an era of change.

I think this period of change brings to the senior managers of all of the Departments, not just the Navy but all of the Departments, an extra burden of leadership because in the Cold War, things were very structured. We knew who we were, and we knew who the enemy was. Now we're in this very ambiguous period called the "post-Cold War" period. The Press doesn't even have a name for this period that we're in; they call it the "post-Cold War" period. This brings a unique set of pressures on the top leadership of any big organization.

I know our CNO felt those pressures strongly. He was widely loved by the men and women in the Navy, me included. I thought the guy was wonderful, and still do think he's wonderful. But his loss to the Navy, I think, reminds us all of what a heavy burden leadership carries; it reminds us of the loneliness of command. It is very diffi-

cult to sit here at the top of a big organization, in this very room where we're talking, day in and day out, making half a dozen decisions involving millions of dollars. While you have a lot of people who will help you and advise you, the cold sober fact that you are the decision authority creates a kind of loneliness that you can only understand if you've been in such a position. I think when you back up and look at the tremendous change that's taking place in the Navy/Marine Corps team today, and the tremendous stresses that our team is under because we are America's "911" force right now, our morale is good in light of that.

The acquisition community has its own stresses. We spoke about these impending moves across the country; these have an effect on morale. My sense is that our people trust our leadership. I get a lot of positive feedback from working-level people that they trust me because they know that I've done their kinds of jobs. I draw strength from that trust. I don't mind saying that to your readers. Young people come up to me every day and say things like, "Mr. Douglass, it's great to see a former contracting officer up there," or "it's great to see a guy that's been in a program office occupying your position." That is the psychic feedback that buoys me up and allows me to work the long hours and make the tough decisions. I feel that we've got some very serious challenges, but I think our morale is fundamentally good. It's good because we have great people who don't mind making the sacrifices they're asked to make.

And we have good leadership. We have a tremendous Commandant of the Marine Corps right now. I used to give a lot of speeches about what a dynamic duo Admiral Boorda, former Chief of Naval Operations (CNO), and General Krulak, Commandant, U.S. Marine Corps were, and I know that our new CNO will pick up that mantle and do a wonderful job as well. But I want to make sure I mention the lead-

ership of our Commandant because it's easy to not think of the Marines when you've had a tragedy like what happened to Admiral Boorda.

Program Manager: What would you consider to be the best advice you ever received, be it from a parent, colleague, or even a mentor?

Douglass: My dad was a chief petty officer. When I came on active duty he told me a couple of things. One thing he said was, "Son, don't ever forget: the noncommissioned officers run the military." That's good advice. I've never forgotten that. He also told me, "Son, don't ever sign for any government property unless you do an inventory." And when you think about that for a minute, the principle there is indicative of what makes chiefs great. It has served me in good stead. I think along the way, my career has been influenced by a lot of wonderful people. I've had an opportunity to learn from senior leadership. I've worked for the Chief of Staff of the Air Force; I've worked for the Under Secretary for Research and Engineering; I've also worked over at the White House under President Reagan's leadership. So I've had an opportunity to work with a lot of great Americans. It's somewhat hard to single out one piece of advice or one thing that has influenced me the most, but I think you can look back over my career and say it has been influenced by the outstanding dedication to our country of a lot of senior American leaders. I was fortunate enough to get exposed to that at a fairly young age. Hopefully, some of it rubbed off.

Program Manager: Obviously it has. Is there one final parting word that you have for the men and women who are working in our program offices?

Douglass: Yes, I think the one thing that I'd like to leave in their minds is be innovators, be leaders, but remember that leadership involves the human element. You have to treat all your people as human beings. I don't believe in

> **"...We have to be absolutely open in what we do — completely open. I am fundamentally dedicated to the principle that the U.S. Navy is a people's Navy. There is nothing — no letter that I ever signed, no document I have generated under my leadership (other than classified information) — that I would not want to share with the American public or with the Congress."**

the old theory "X" style management. I'm a theory "Y" guy, and I guess I got it from DSMC. You'll probably love this so I can tell you. In fact, that's one of the great things that I remember. There's a letter outside my office (I don't know if you've heard the famous story of the letter) in which some Air Force general tried to get me into a lot of trouble when I was a major. I was doing the right thing; I was trying to share money between two Services. This was a very short-sighted, heavy-handed letter that could have ruined my career, but it didn't ruin my career because there were other senior members of the Air Force who recognized that we shouldn't treat our people that way. That left an indelible mark on me. Let's don't shoot the messenger, and let's don't take people who are really trying to do the right thing for America and treat them poorly. And so I keep that letter on my wall just so that my young officers can read it and know that when I was a young officer, I wasn't always treated the way I think people ought to be treated today.

Program Manager: We kind of define that today as "risk management or risk-taking."

Douglass: We have to be able to let our people take risks. And we can't kill them every time they fail. And we can't kill them when they give us bad news. We ask them to give us the news, and we can't shoot them when they do. We certainly shouldn't punish our people for being fair in joint-Service environments. Basically, that letter was written to me because I was an Air Force officer working for a Navy admiral, and the perception of this Air Force general was that I should have been unfair to the Navy and biased toward the Air Force because that was my home Service. And that's just not right. We take an oath as officers to support and defend the Constitution of the United States and those officers appointed above us by the President. And I don't think, the last time I saw the oath, that it mentions the color of the uniform.

As I read the subject article ["Adequacy of ISO 9000 Certification for DoD Weapon System Software Development Contractors"] in the March-April 1996 issue of your fine publication, I was suddenly transported back to the early 1990s when most of the information circulating in the United States regarding ISO 9000 and certification was inaccurate at best.

I have been a member (vice-chair at times) of the U.S. Technical Advisory Group (TAG) to ISO TC 176 (the technical committee responsible for development of the ISO 9000 series) since 1988. For the past three and a half years, I have been president of ABS Quality Evaluations, the leading U.S.-accredited registrar of quality systems to the ISO 9000 series. My background also includes seven years' experience manufacturing nuclear propulsion components for the Department of Defense (Navy).

I trust you'll see fit to print this response in an attempt to set the record straight for your readers.

I have organized the response into three sections: 1) obsolete information; 2) inaccurate information; and 3) general observations.

Obsolete Information
- Acceptance of the ISO 9000 series of standards worldwide: Contrary to Mr. Dobbins, Japan (in 1991) and China (in 1992) have already adopted the standards. I have included a listing (courtesy of Bob Peach a true expert in the ISO 9000 field) showing what countries have and have not adopted the standards.
- Concrete lifejackets: The reference that this could occur indicates that the author has not read the 1994 version of the standards. Section 4.4 requires, among other things, that designs be validated. Validation requires that the producer ascertain whether the product actually

meets customer needs. Since I believe most, if not all, customers would question a concrete lifejacket, this scenario is highly unlikely.
- The insert by Julius Hein: It was a tough call whether to place this section in the obsolete or inaccurate category. There is no such thing as an ISO 9000 directive as referenced by Mr. Hein. I believe he may be referring to European Union Directives, some of which contain ISO 9000 as an option for compliance. Also, ISO 9000 presents a roadmap for the balance of the series — it is not only used when certification is pursued. Finally, the table of contents is from the 1987 version of the standards, not the current 1994 revision.

Inaccurate Information
- International Organization for Standardization is the correct name of the body, not International Standardization Organization.
- Certification to ISO 9000-3 is not possible as this document is a guidance standard with nonprescriptive wording.
- The various national bodies do not create the standards as stated in the article. In the case of the United States, ANSI is the designated member body, but the Administrator of the U.S. Technical Advisory Group (TAG) to ISO Technical Committee (TC) 176 on Quality and Quality Management is the ASQC. The U.S. TAG to TC 176 is an open organization populated by government, industry, and other stakeholders who develop U.S. consensus positions on international standards.
- ABS Quality Evaluations is the leading U.S. Registrar. Data compiled over its five years of operation in the ISO 9000 certification arena indicate that over 80 percent of companies seeking certification do so in order to meet corporate strategies for continuous improvement and customer satisfaction. Less than 20 percent pursue certification to get "paper

they want to hang on their wall" as the article maintains.

- One of the purposes of a strong accreditation system is to preclude the author's reference to conflict of interest. The major reputable registrars take great pains to avoid any possibility of or even perception of conflict of interest. This is done by establishing separate legal entities with further segregated certification functions to assure absolute independence of the certification decision. This aspect of a registrar's operations is reviewed at each surveillance visit by all accreditors. The U.S. accreditor is operated by a subsidiary of the ASQC, the Registrar Accreditation Board, in partnership with ANSI. The ANSI-RAB accreditation mark is one of the most recognized, sought after, and accepted marks worldwide.
- I have been in the ISO 9000 registrar business since 1988. The article claims that the certifiers are the bodies pushing most for companies to become certified. In reality, the vast majority pursue certification in order to meet customer requirements or, as stated before, to improve operations. A reputable registrar should never encourage a company that does not need to be certified to become so.
- This brings me to the ultimate inaccuracy in the article: the implication that an ISO 9000-certified system provides a disincentive to improve. I cannot begin to understand how an effective internal audit system coupled with an active corrective/preventive action program, supported by a strong management review function and assessed by an accredited, reputable registrar could do anything less than encourage continuous improvement and positive change! Either the company (or the author) is not clear on the concept or they need to use a different registrar.

In closing, please allow me two observations. First, the ISO 9000 series was never meant to take the place of product requirement standards. The ISO 9000 series was meant to enable an organization to implement a framework (i.e., quality system) which would ensure that all customer requirements, whether product-related, schedule-related or whatever, would be identified and met. Second, there are multiple systems in place to assure accredited registrars operate ethically with trained personnel. When I first became involved with ISO 9000, I believed that any organization operating a government-audited MILQ-9858A system would be a shoe-in for ISO 9000 certification. Apparently, the "sufficiently knowledgeable government evaluators" referred to in the article are not as well controlled as Mr. Dobbins would have the reader believe. The quality of the MILQ-9858A systems implemented was directly related to the quality of the government evaluators and, although these companies should have easily met ISO 9000 requirements, most did not initially. I can only surmise that Mr. Dobbins wishes to retain, in the public sector, a function that is and should be, more appropriately handled in the competitive private sector. In the interest of industry attempting to competitively survive in the commercial world outside of government procurement, I suggest Mr. Dobbins evaluate the real facts regarding ISO 9000 certification and assess their merit with an open mind.

— **Elizabeth A. Potts**
  Vice President of Business
    Development
  American Bureau of Shipping &
    Affiliated Companies
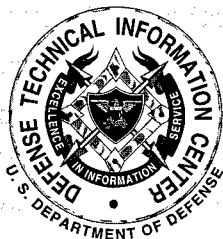
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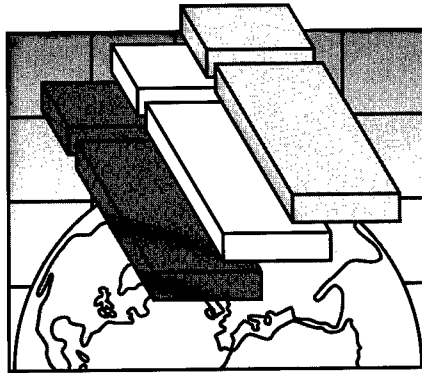
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PEO Aviation Commercialization

Delivering the Best Possible Product to the Warfighter in the Most Affordable Manner

RON KLEIN

The Army Program Executive Office for Aviation (PEO Avn) has six project and product manager's offices:

- Comanche
- Longbow Apache
- Utility (Black Hawk)
- Kiowa Warrior
- Aviation Electronic Combat
- Aircrew Integrated Systems

The Aviation Electronic Combat and Aircrew Integrated Systems offices address systems that apply across multiple platforms, while the four aircraft offices have the responsibility to manage a particular helicopter.

The project manager's offices (PMO) as well as the PEO are charged with delivering the best possible product to the soldier in the most affordable manner. Throughout the PEO we have incorporated improved management techniques such as the widespread use of integrated product teams. We are actively assisting our support command (ATCOM) with the revision of government-unique standards as well as less reliance on "boiler plate" government requirements. We have ongoing participation in other DoD initiatives such as the Joint Aeronautical Commander's Group and the USAF

Klein is a government consultant on commercialization and defense aerospace issues with Belzon, Inc. He is the lead coordinator and primary author of last year's OSD report to Congress, "Industrial Assessment for Helicopters." He is an economist with extensive practical experience, having conducted detailed assessments of aerospace production facilities throughout the United States and Europe.

Manufacturing Technologies program. In our benchmarking efforts, we keep apprised of the progress of consortium efforts like the Agility Forum as well as corporate streamlining successes. This article, however, focuses on the planning and implementation of commercialization.

What is "Commercialization"?

One of the initial tasks in undertaking a commercialization initiative is defining what the effort includes, and more importantly, what it excludes. There are several important DoD initiatives underway. A short list includes acquisition reform, block changes, Defense Contract Management Command (DCMC) reinvention laboratories, Military Specifications and Standards reform, privatization efforts, single process plants, and streamlining. If the objectives of commercialization are improved cost, schedule, and performance, then it parallels standard project management goals. Without setting some bounds on the effort, "commercialization" becomes synonymous with "improvement." When this happens, the effort becomes so diffused as to preclude progress on any particular front. Frequently there is a temptation to resort to rhetoric; that is, referring to vision and strategic objectives without moving toward the difficult implementation stages.

We view commercialization as "the process of benchmarking the best practices of similar commercial processes with the objective being improved cost efficiency and effectiveness of DoD operations." Note what is excluded from this definition. It does

▶ UH-60 BLACKHAWK
MEDEVAC

▲ NEARING ITS TWENTIETH PRODUCTION YEAR, THE BLACK HAWK REMAINS THE WORLD STANDARD FOR A MILITARY UTILITY HELICOPTER.

not include combat operations, requirements determination, nor, for the most part, the improvement of solely internal government practices and procedures. We have made every effort to stay abreast of corporate reengineering, activity-based costing, the application of information technology, and business process innovation experiences of the past six years.

There are many excellent examples of successes and failures. Within the Department of Defense, however, we have some distinct considerations:

- The user's bottom line is performance, not financial.
- The enterprise operates with public funds, which are held to different standards than corporate ones.

▼ THE COMANCHE IS THE ARMY'S NEXT-GENERATION, RECONNAISSANCE–ATTACK HELICOPTER.

◄ THE AH-64D LONGBOW APACHE IS THE PREMIER ATTACK HELICOPTER IN THE WORLD.

- Often there are legal restrictions to committing to long-term project plans, investments, or contractor relationships.
- Weapons system performance is difficult to judge and will not be fully demonstrated until combat operations take place.
- There are restrictions on hiring authority, personnel skills, retraining, transfer, and remuneration.
- Funding is provided in categories that limit flexibility.
- The government cost accounting system generally does not collect data in sufficient detail.
- There are legal limits to outsourcing (e.g., contracting, depot maintenance).
- There are a large number of affected organizations, most of whom have a voice in proposed changes.
- Resource constraints are seldom mirrored by reductions in requirements.

This list should not be construed as reasons to avoid commercialization but rather a reminder on why our challenges are sometimes greater than our corporate counterparts.

The direct labor and manufacturing portion at both the prime contractor and vendors is being addressed by programs such as the MIT Lean Aircraft Initiative, the USAF Manufacturing Technology Industrial Base Pilots, and the DoD Non-Government Standards Integrated Product Team. The DCMC reinvention labs are focusing on the management and administrative aspects. The focus of commercialization depends on the life cycle phase of the program. One can orient on: 1) manufacturing technology; or 2) business practices.

These are not mutually exclusive. In practice, however, a program office that is defining its product will find the highest payoff in the material and manufacturing processes while, in an established program (production or modification), the primary opportunities are in the areas of management and administration. For example:
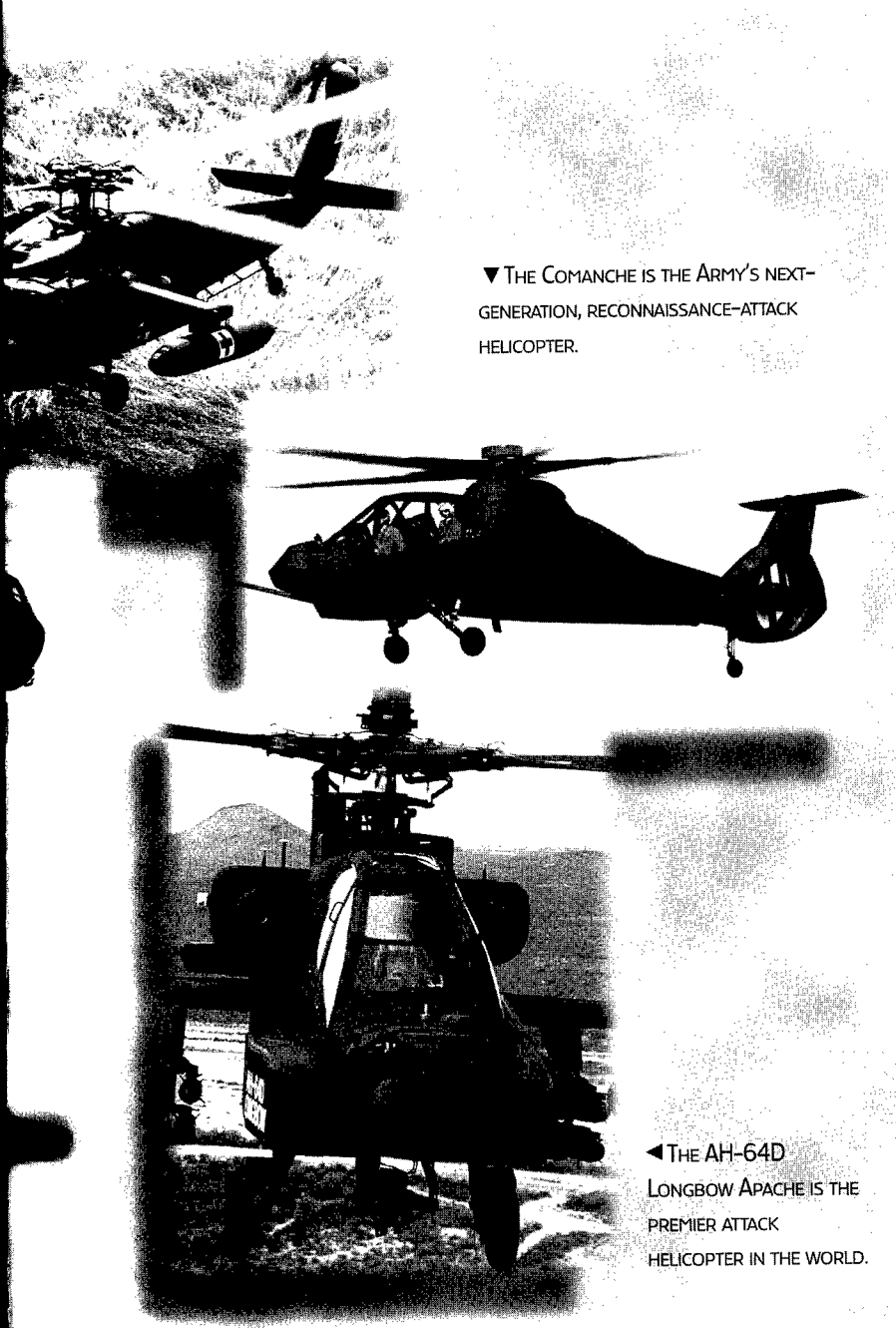
- commercial spares availability;
- substantial improvement to the Engineering Change Proposal (ECP) process; and
- dramatic improvements to the contracting process and requirements, e.g., Contract Data Requirements Lists (CDRL), cost and pricing data, testing, reports, coordination, approvals, and compliance verifications.

During the first three phases of the Life Cycle Management Model, the predominant costs are in the design requirements. Consequently, there is a significant opportunity to increase value by placing greater reliance on commercial standards and components. This strategy has several advantages, including lower research and development (R&D) costs, quicker and less expensive access to technology improvements, and lower manufacturing costs. Of course, this is also when the long-term logistics and support concepts are determined. So, although the material and manufacturing process receives the most attention, there is also great opportunity to affect the eventual operational support and business costs.[1]

Implementation

Comanche. The Comanche is the Army's next-generation, reconnaissance-attack helicopter. The prime manufacturers are Sikorsky and Boeing. This is the first Army aircraft designed using product development teams and engineering design simulation. Throughout the development process, simulation has been used to design parts, assure fit and clearances, ensure outstanding handling characteristics, and to verify tactics prior to actual manufacturing. The first prototype flew on January 4th of this year.

The charter of this commercialization process action team is to: "Reduce Comanche production and operations and support costs through application of commercial practices and parts." We are in the final stages of focusing on commercial parts and are now expanding to business practices.

Early in the development phase, the Comanche program recognized many of the military suppliers could not economically produce the small number of Military-Standard electronic components required. The government-contractor team began looking for commercial electronic components that would meet the full military requirement at significantly reduced cost. Several major contractors have commercial divisions producing similar parts. With the aid of these suppliers, Comanche was able to establish a design that would meet both performance and reliability requirements using commercial components. Comanche designs now include commercial plastic encapsulated microcircuits and high industrial reliability electronic components. Additionally, the PMO is pursuing more applications including processors, controllers, and circuit boards.

With respect to commercial business and administrative practices, we have made some significant changes to shift the responsibility for performance from the government to the contractor. Examples include:

- a commercial-type, easy-to-use warranty;
- guaranteed minimum time on spare parts turnaround;
- a warranty on all parts for a specified period or flight hours; and
- limited government involvement.

Additionally, we intend to reduce oversight, management, and overhead cost by initiatives such as:

- contractor configuration management;
- complete contractor support (no government spares for at least the first five years);
- contract depot repairs for the first five years or longer;
- contractor-developed training system; and
- contractor software support.

Longbow Apache

The AH-64A Apache helicopter is manufactured by McDonnell Douglas

Helicopter Systems (MDHS). Lockheed Martin is the principal subcontractor manufacturing the targeting and pilotage systems. It is the premier attack helicopter in the world, and we intend to maintain that distinction. The upgrade to the AH-64D Longbow Apache is a modification program. Apaches are inducted into a "de-mod" line, stripped down to the basic airframe, then modified by MDHS to incorporate an integrated avionics suite using multifunction displays. Also, MDHS adds a Loral radar frequency interferometer, radar frequency fire-and-forget Hellfire missiles, and a mast-mounted millimeter wave radar air/ground targeting system manufactured by a joint venture of Northrop and Lockheed Martin. This enables the crew to identify, classify, and prioritize 128 targets and permits coordinated fire on 16 separate targets within one minute.

An example of the MDHS effort is the manner in which the government and contractor implement changes. The airframe has a useful life of 20 to 30 years. However, the systems have a much shorter life cycle. In the instance of avionics, electronics, information processing, and electronic warfare systems, we frequently encounter life cycles of 24 to 48 months. Given accelerating technology developments and the increasing use of information systems on our helicopters, we expect to process ECPs with greater frequency. The current ECP process is sequential, consumes thousands of labor hours, and requires one to three years. It is this type of business process that commercialization seeks to change.

In August of 1995, the MDHS commercialization laboratory commenced with the first meeting of the integrated product team (IPT). Four working groups were established along functional lines: Acquisition, Integrated Product Development, Production, and Product Support. Over the next few months, these working groups asked the question, "What can be done more efficiently?" As one would expect, MDHS tended to focus on the

reduction of oversight, while the government frequently looked for improved quality. An approach has been selected that allows MDHS to earn reduced oversight by demonstrating excellent performance. A fixed price incentive, multi-year contract is being negotiated that allows additional scope to be added. This added scope is intended to resolve the issue of consideration as well as provide industry with the incentive to reduce costs.[2] This type of contracting is considered essential to ensuring MDHS and the government remain committed to both these and further cost reductions.

Fifty-two specific proposals were identified. Once the initial proposals were defined, performance metrics were established, and teams were reporting on progress, the decision was made to tackle the "big ones" — i.e., "Phase II." This commenced with a brainstorming session where knowledgeable government and MDHS personnel gathered to answer the question: "If there were no restrictions or previous methods, how would we do this?" The result was 67 ideas for major improvement. After discussions, this list was reduced to 12. An example is the proposal to pay a contractor a flat fee per flight hour for all spare parts. These phase II proposals are the truly difficult ones. They are typical of the kind of change the government does not do very well, i.e., low visibility; no strong advocate; the absence of empirical data; and many, sometimes vocal opponents.

Black Hawk
Nearing its twentieth production year, the Black Hawk remains the world standard for a military utility helicopter. Sikorsky has produced over 1,700 Black Hawks since 1977.[3] Fiscal constraints have reduced procurement rates from 60 to 36 per year. Sikorsky offered to use commercialization initiatives to reduce costs to the point that they could sell UH-60Ls at the same price, despite a 50-percent reduction in the production rate.

The Black Hawk commercialization effort required significantly more gov-

Nearing its twentieth production year, the Black Hawk remains the world standard for a military utility helicopter. Sikorsky has produced over 1,700 Black Hawks since 1977.

ernment coordination than the Longbow Apache initiative. The Navy, Air Force, Marines, and Coast Guard buy Black Hawk derivative helicopters. Additionally, the Marines and the Navy buy other military helicopters produced at the same facility. The same four working groups used on the MDHS commercialization laboratory were used on this effort. In this case, however, the management working group was comprised of the program managers from the Army, Navy, Air Force, Sikorsky, General Electric (engines), the Defense Plant Representatives Office commander, and representatives from the Aviation and Troop Command.

Sikorsky began by red-lining the current contract highlighting areas whenever they considered the cost exceeded the value. In all, Sikorsky recommended 85 specific changes that were grouped into 29 general areas. Between Oct '95 and Jan '96, the IPT completed its review and approved 25 of the 29 proposals, eliminated all 197 military standards and specifications, eliminated 39 CDRL items, and modified another 30 by reducing content, frequency, and quantity.

In contrast to studies, this effort is characterized by identifying and implementing change. There are six major areas of agreement:

- incorporating performance criteria and eliminating all military specifications in the prime item development specification;
- transferring configuration control for Class II engineering changes to the contractor;
- using milestone billing versus progress payments;
- accepting third-party oversight of an ISO 9001 quality system;
- greater reliance on price versus cost analysis; and
- risk compensation for the government due to decreased oversight.

Sikorsky incorporated all of the approved commercialization initiatives into its final proposal submitted in early April 1996.

Challenges
The decision to commence a major commercialization effort should not be taken lightly. One of the strengths of a bureaucracy is its stability. In this case, one attempts to change well-established procedures. As an example, the risk-averse culture has been reinforced by repetitive audits, award protests, and publicity. Conscientious employees learn to avoid mistakes. In many cases, altering attitudes and building support by those who will implement the changes is much more difficult than defining the problem and identifying a solution.

In most instances, it is relatively easy to state strategy. It is more difficult to identify the specific "how-to's." The actual implementation is time-consuming and significantly more difficult. There are many examples of this, including the effective use of warranties, relying on price quotes instead of cost and pricing data, using past performance in the selection of contractors, and the elimination of government-unique specifications and standards. These are excellent ideas that have immediate appeal. The implementation, however, turns out to be particularly difficult.

Generally, the contractors are more responsive to change than the government. There may be several agencies involved and little immediate progress to reinforce the required long-term commitment. A ground swell movement can get this started. A contractor-led effort can identify areas to focus attention. But this is not an area where good ideas will carry the momentum. Success will require strong and forceful leadership.

Lessons Learned

Every program is unique, but there are some lessons that can be broadly applied. The list below is our top 25. They come from our experiences as well as those from other DoD programs and non-DoD corporate efforts.

- Expect resistance.
- Risk, effort, and reward are inextricably linked.
- The government cannot retain control and transfer responsibility.
- There is a tendency to table the hard, large-payoff issues and end up with several smaller improvements.
- Line up your senior executive participation. You're going to need it.
- One needs to stagger multiple, large changes.
- The change process is more difficult, pervasive, and time-consuming than originally envisioned.
- There is no "silver bullet." Improvement will consist of many changes.
- Sometimes the best answer is doing things differently (major change).

Other times it is doing things better (incremental change).
- The effective use of integrated product teams is crucial. This includes:
  —participation of all stakeholders;
  —ensure top-notch personnel are assigned;
  —an aggressive but attainable schedule; and
  —stability of team members.
- Current ("As-Is") costs are unknown and often impossible to determine.
- The *a priori* documentation of projected cost savings is difficult, and sometimes impossible.
- Cost-benefit analysis addresses effectiveness but not efficiency.
- If the ability to point out errors justifies continued oversight, it will never be reduced.
- Keep going back to look at the metrics. Are they the right ones?
- Documenting the "As-Is" model is essential. However, don't use extensive analysis to stall the transition to implementation.
- The intra-government coordination and agreement is the hard part, i.e., the internal change process is more difficult than the external one.
- Planning is fun. Implementation is work.
- Executives frequently state strategies without knowing how they will be accomplished.
- You can't accomplish major change in six months.
- The government often imposes requirements without considering their costs.
- Broad flexibility exists. Use it.
- The government as well as the contractor must be held accountable for progress.
- Challenge all requirements, practices, and assumptions.
- Major improvements are achievable.

This is not intended as a checklist. However, before undertaking a major change effort, leaders are cautioned to understand the difficulty of the course they about to embark upon. If you don't have sufficient senior-level participation or the tenacity and endurance to see it through, it is much

better not to begin. A failed effort will not only be expensive and cause great disruption to the organization, but it will add to the ranks of the cynics who claim nothing can be done.

Summary

There are two major areas of commercialization: 1) the procurement of commercial hardware; and 2) the incorporation of more effective and efficient business processes. Both have the potential to provide significant improvement to a military program. The change process is lengthy, arduous, detailed, and time consuming. Consequently, the active participation by both the contractor's and the government's senior management is a prerequisite to success.

ENDNOTES

1. Historically, we have not done an exemplary job of determining the optimal trade-offs between current R&D expenditures and future logistics and operational cost avoidance. This is an enduring problem due to: 1) our personnel policies (rotating managers before results are known); and 2) our accounting system that does not provide a manager with sufficient cost avoidance data (in the Operations and Maintenance account) to argue for greater investment (in the procurement account); and 3) our management structure that has one organization responsible for the procurement of the system and another responsible for the support.

2. Even on a firm fixed price production contract, the contractor has little incentive to offer long-term cost savings. It generally involves an up-front investment and may take a year or two to result in cost savings. At that point, negotiations are underway for the subsequent lot, and the government disallows the cost.

3. The total Black Hawk production numbers include commercial and military foreign sales of the comparable S-70 aircraft. This production number does not include derivative aircraft such as the USN SH-60F Sea Hawk or USCG SH-60J.

I'M GLAD YOU ASKED...

At the Convocation for the Defense Systems Management College's Advanced Program Management Course (APMC) 96-2, conducted at Essayons Theater, Fort Belvoir, Virginia, on August 20, 1996, Deputy Under Secretary of Defense (Acquisition Reform) Colleen A. Preston spent much of her time as keynote speaker fielding questions from the large and diversified student body. Class 96-2 consists of 420 students, which reported to the College's main Fort Belvoir campus on August 19, and includes 115 Army officers and civilians; 125 Air Force officers and civilians; 135 U.S. Navy and U.S. Marine Corps officers and civilians; 24 DoD officers and civilians; and 12 representatives from industry. Also attending the course are three officers from the U.S. Coast Guard; one civilian from the National Aeronautics and Space Administration; and three DSMC military faculty members.

Controlling Costs — A Historical Perspective

How Can I Make Trade-offs?

B.A. "TONY" KAUSAL IV

The bright gleaming car sat on the dealers' showroom floor beckoning to me. It was everything I wanted — V-8 engine, convertible, lush interior, a cup holder for my McDonald's coffee. It was almost a match! There was that nasty little problem of price. How to negotiate the dealer down from his unreasonable price of $25,500 to my affordable price of $15,000. A large leap?

The Department of Defense (DoD) has the same problem. How to make new acquisitions affordable? The latest DoD initiative to try to tackle this problem is "Cost As An Independent Variable" (CAIV). Its goal is to "Reduce the cost to acquire and operate the Department's equipment while maintaining a high level of performance for the user..." Industry is able to do this — treat cost as a critical variable where they make trade-offs. Can the Department do this? Similar DoD initiatives in the past have not proven to be successful.

Is the Past Prologue?

Twenty-five years ago DoD faced similar problems and created a cost cutting initiative — Design-to-Cost. The purpose of this article is to examine Design-to-Cost, its objectives and history, and discuss their implication for CAIV. A review of a current program, the Joint Direct Attack Munitions (JDAM) program, provides useful information on developing a practical

"THE WARTHOG" — THE A-10 AIRCRAFT DURING IN-FLIGHT REFUELING OPERATIONS OVER THE NORTH SEA, ROYAL AIR FORCE MILDENHALL, UNITED KINGDOM.
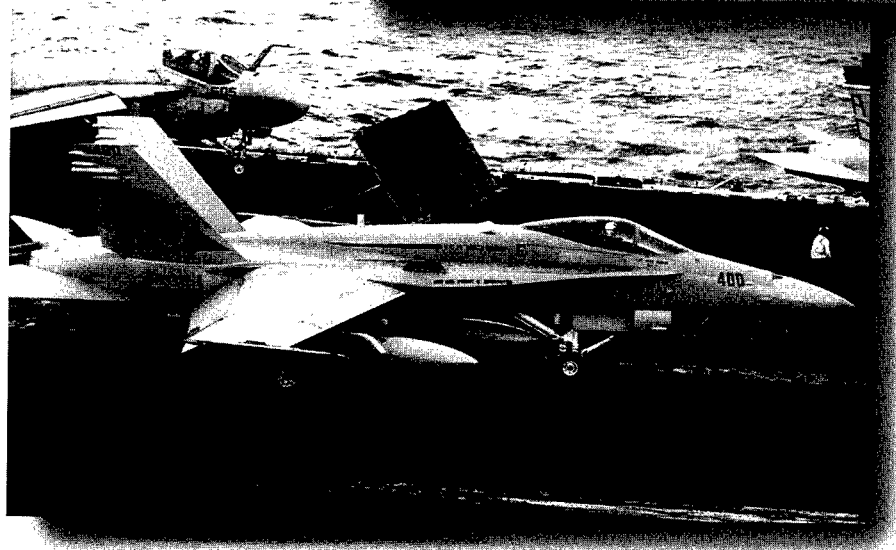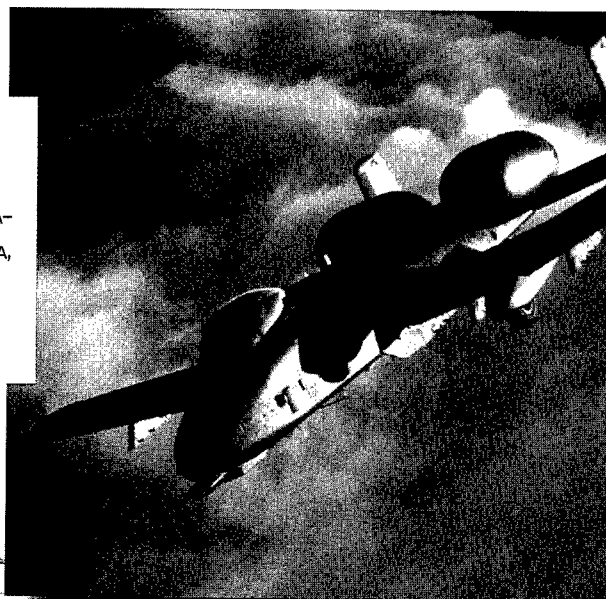
F/A-18 HORNET AIRCRAFT WAITS TO TAXI FORWARD TO ONE OF THE BOW-CATAPULTS ON THE USS DWIGHT D. EISENHOWER DURING FLIGHT OPERATIONS OFF THE COAST OF PUERTO RICO, JUNE 25, 1994.

Kausal is the holder of the Air Force Chair, DSMC Executive Institute.

Department of Defense photos

approach to managing CAIV. Finally, I offer my observations, including the questions and issues to be considered as your program wrestles with implementing CAIV.

Guns and butter! The old saw was that you could not have both. In the 1960s, as a nation we decided we could have peacetime prosperity, spend a significant amount of the "government's" money in building "the great society," and fight the Vietnam War.

Yet the demands of financing the battlefield made a significant dent on our ability to develop new systems. During the later part of the McNamara era, the procurement accounts were used to pay for the operations of the Vietnam War. The increasing operations and maintenance costs, coupled with the congressionally mandated budget ceiling for defense continued into the Nixon Administration. David Packard, Deputy Secretary of Defense, and John Foster, the Director of Defense Research and Engineering (DDR&E), were faced with the need to rein in costs.

The Design-to-Cost (DTC)[1] concept is credited to Packard and Foster who were looking for an acquisition technique to control the spiraling costs of weapons systems. While there were some test programs in 1970, DTC did not become official policy until July 13, 1971, with its incorporation into DoD 5000.1. The original policy focus was on the production cost of articles. By 1973, the Department recognized the need to include life cycle cost design as part of the DTC goal. The thrust of the policy was to weight cost as an equal design parameter with schedule/technical and life cycle cost requirements.

Initially, DTC was used as a "goal" in programs, but by 1973 it was mandated for all major programs, regardless of acquisition phase. The initial policy guidance appears to have been general, with every program developing its own methods of implementing DTC. Various programs applied individual measurements and developed individual approaches to measuring and applying DTC. Some programs looked at the (1) total force structure; (2) the life cycle of a weapon system; and (3) production of system hardware.

It Should Cost Less If I Have a DTC Goal, Right?

I thought the answer would be yes! Figure 1 provides surprising information. A study by the Institute for Defense Analyses (IDA)[2] found, in looking at data on 63 major systems to compare cost and schedule outcomes for DTC and non-DTC programs, that the actual overall cost growth on DTC programs was 19 percentage points greater than that of the non-DTC programs. This cost growth included the Full Scale Development and Production of the items. Unfortunately, statistical data do not always answer the question — "Why the cost growth?" To provide a flavor for the various approaches and understand the impact of DTC and its effect on the program cost growth, a 1989 IDA study looked at several programs, including the FA/18, A-10, and AH-64 programs. The following program observation should provide insight into the possible reason for this cost growth.
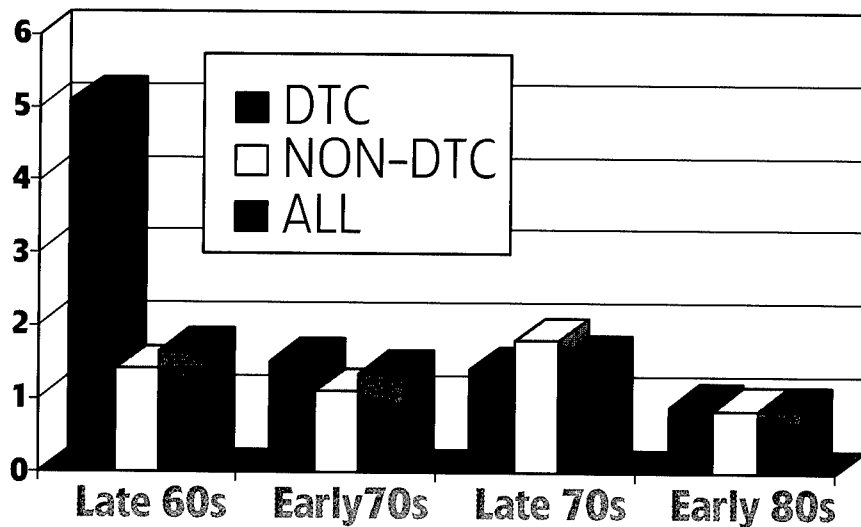
"The Hornet" — The F/A-18 Low-cost Fighter

The Navy's Hornet was manufactured and developed by McDonnell Douglas. After the program entered Full Scale Development (FSD) in 1976, DTC was implemented as a goal. Insta-

APACHE AH-64 HELICOPTER ENTERED DEVELOPMENT IN 1976 WITH HUGHES AIRCRAFT.

Figure 1. Total Program Cost Growth — DTC vs. Non-DTC

development in 1976 with Hughes Aircraft as the Phase 1 winner over Bell Helicopter. Unlike the FA-18, the AH-64 goal reflected continual change — 1.4M unit production cost; then revised to 1.6M unit production cost; then $1.8M unit flyaway cost; and finally $3.31M (FY 87 dollars). Both the goal and the way the program measured the goal changed. "This suggests that DTC has been used more or less like a cost-monitoring device. The DTC goal was changed to adjust to the performance requirements of the system."[8] This is probably why the DTC goal "did not serve to discipline cost growth, especially for nonrecurring tooling, engineering, and program management service costs."[9]

Traditional motivational theory suggests the use of award fees as an effective motivator of a contractor's performance. The AH-64 SPO did use an award fee to attempt to motivate Hughes to achieve the DTC goal. Unfortunately, as each initial award fee period ended, the contractor was unable to demonstrate successful performance in meeting its DTC goal and thus, received no fee. After it became obvious to Hughes that they would not be able to earn the award fees, it ceased to be an effective motivator.

What Were the Major Problems in DTC?

The Hornet, Apache, and Warthog offer insight into the implementation of DTC and a start in understanding the problems of DTC. The initial problem in the DTC implementation was that the policy was mandated on all major programs (after 1973) whether or not it made sense for the phase of the program. This creates three problems. First, after an FSD (now Engineering and Manufacturing Development Phase) contract was awarded, and in particular, after the Critical Design Review was completed, it was highly unlikely that a program office would be willing to make change. Since cost and schedule are two of the key measurement parameters of a successful program manager, the incentive is to continue with initial design.

bility in quantities (2300 – 1366 – 1157 units) and changes or upgrades were complexities in measuring a "cost" for the fighter. Even as these changes occurred, the program office did not continually update and track a new DTC goal. Rather than identifying the cost of a specific aircraft, the measurement for DTC was on "the cumulative average recurring cost for 800 aircraft." The FA-18 was originally sold as a low-cost aircraft, yet the program office provided little or no guidance to the contractor on the design, performance, and cost interrelationships. There were no contractual incentives to motivate the contractor and make DTC an active effort on the program. The IDA concluded, "There appeared to be little interest in the Navy in trading off systems requirements for cost...the DTC goal was dropped or faded away in program FSD."[3]

"The Warthog" — The A-10

The 1970 FSD contract for the Air Force A-10, another low-cost fighter, was won by Fairchild Industries. The competitive "Fly Before You Buy" effort leading to FSD featured a competition between Northrop and Fairchild, with a prize of 600 aircraft for the winner. Some of the ground work for DTC was performed during this "fly-off" phase. "The selection of a high-thrust engine already developed, the extensive use of trade studies, and the use of an iteration process with the engine manufac-

turer to reduce engine costs,"[4] are examples of the types of activities expended in lowering the cost of the aircraft. Fairchild also placed much effort on providing a "production similar" aircraft.[5] The FSD contract was Firm Fixed Price but was designed to offer the opportunity for DTC trade-offs since it was"...void of usual military specifications, standards, and other normal procurement requirements, [which] provided the contractor with maximum flexibility to trade performance and cost."[6] The Warthog goal, $1.5M (FY 1970), was measured by unit production flyaway costs, including both recurring and non-recurring cost for production. There were negative penalties for failure to meet the DTC goal — contract termination. Perhaps in a precursor to Integrated Product Teams (IPT), the Company organized into design teams.

There was a feeling by both the IDA study participants and the Special Projects Office (SPO) that DTC had been an effective motivator of the contractor in controlling costs. However, Figure 2[7] shows the total program cost growth was still 10 percent higher than all eight other tactical aircraft reviewed. Would the costs have been even higher without the DTC bogey?

"The Apache" — The AH-64

Our third program to review is the Army's Apache Helicopter. It entered

Redesign takes time and money. Thus, DTC becomes a cost monitoring device, changeable as "new requirements" become part of the program.

Second, applying an initiative to a program (or programs) where it will not work, robs the initiative of its integrity. It becomes "just something to do" rather than a central part of the program's focus. Another researcher found that DTC was considered by many as just another initiative — "just some clause that had to be put into the contract."[10] Third, the application of DTC to already awarded contracts resulted in sole-source negotiations. In these types of situations, it is difficult to develop a realistic target.

A variety of DTC approaches was used by program offices. "They used incentives for achieving the cost goals, performance-validation plans, and price-index adjustment clauses... Considerable variations were found among programs in the requirements for production-cost tracking and reporting during the development phases. Other government DTC requirements varied widely among programs."[11] There seemed to be no central guidelines nor training on how to implement, measure, or motivate [the contractor]. Each program was on its own to invent its approach to DTC. While a "one size fits all" program would probably have failed, it might have been useful to

have provided some tenets and training to those responsible for implementing the DTC requirements. Additionally, the selection of pilot programs and monitoring and promulgation of lessons learned could have provided valuable insight for future programs.

Key to making DTC work, as well as CAIV, is the willingness to make requirements trade-offs. None of the programs reviewed seemed to have a clear cut process for making this happen. The user does not appear to have been a part of the process, at least not in a formal way. In most cases, as witness the Apache, there were continual requirements changes. This makes it hard to measure and reward when your goal is always changing. Some authors felt that whoever would make the changes would make a difference as to how effective DTC would be — if you wait until the time comes to make a change, then start the process with the users, you are too late. The engineering changes must be made quickly, or as time passes changes become more costly. This approach would put the authority to make changes into the hands of the program manager. An effective Integrated Product Team (with the empowered user as part of the team), or another approach where the user and the acquisition organization agree to a speedy process for handling changes, would meet the con-

cerns of the need for reasonably quick decisions and contract changes.

Some programs set unrealistic goals. One Army program had a Design to Unit Production Cost of $3564.00 per unit, while the contractor was estimating the cost was closer to $20-30,000 per unit. Eventually it was dropped as a contract requirement.[12]

What was the contractor's response to DTC? An IDA study concluded that most contractors did not have DTC policies or operating procedures.[13] It appears that contractor management personnel believed that their normal mode of operations would be adequate to accomplish the DTC requirements, and that the DTC process would be handled on a demand basis by project or program staff personnel. Oscar Solar, current Joint Direct Attack Munitions (JDAM) Program Director, related his experience on the Advanced Medium Range Air-to-Air Missile (AMRAAM) program's DTC efforts. "During design reviews, the engineers were going over the individual design of each board, explaining how they had allocated the technical values of each part on the board. When I asked how had they allocated the DTC goals to each part, it quickly became obvious that DTC had not penetrated into the engineering design process. To make DTC work we needed the design engineers and the engineering department to be a part of the process."[14] To make CAIV work, it is critical that the contractor's engineering personnel see this as part of their job.

In summary DTC did not succeed for a variety of reasons: the perception by many that it was just another initiative; lack of a process for making requirement trade-offs; desire for achieving the last 2 percent of performance; and lack of management attention, both contractor and government.

CAIV Can Be a Success!

The JDAM program provides a potential example of a program that foresaw

Figure 2. **A-10 Schedule and Cost Outcomes vs. All Tactical Aircraft Outcomes**

Growth	A-10	All Tactical Aircraft (8)
Development Cost	1.27	1.18
Development Schedule	1.08	1.03
Development Quantity	0.71	1.10
Production Cost	1.34	1.25
Production Schedule	0.98	2.12
Production Quantity	1.00	1.65
Total Program Cost	1.33	1.23

many of the problems DTC encountered and developed management strategies to make cost-effective trade-offs an important part of the program. "We were doing CAIV before DoD coined the term," said Terry Little, former Program Director for the JDAM Program. As the program entered into the competitive Demonstration/Validation phase, it faced a significant cost problem. The program office costs estimates ranged from a high of $68K to a low of $48K. Even then, this made the system unaffordable within the Air Force budget.

Management focus on the cost of the system was critical to success of the program. Early on, the JDAM program office set aggressive, but achievable cost/price objectives. Their cost/price production objective included all recurring costs, warranty price, Engineering Change Proposals, and unamortized tooling/test equipment. In an unusual approach, they made the cost objective part of the contract systems specification. It was important to focus the need to make cost versus performance design trade in the contractor's technical community. This helped provide organizational penetration into the contractor's engineering community.

As a necessary adjunct to the organizational penetration of the contractor was the need to have "heavy" user involvement and their willingness to trade performance for cost, as necessary. The JDAM's program office and the user created "Live or Die" requirements — those that the user was unwilling to trade off. They were accuracy, aircraft compatibility, aircraft carrier suitability, captive in flight retargeting, warhead compatibility, and *low unit cost*. With the user agreement to the "Live or Die" requirements, everything else was a trade-off. The contractor was thus provided guidance on where to focus its attention and where to make its design trades.

The contractor's motivations must also match our goals. Part of the JDAM "CAIV" approach was to make selec-

tion of the two competing contractors based upon achievement of the cost/price goals. There was a requirement to have the contractors sign up to a price commitment on future contracts with both rewards and penalties for failure to live up to that promise. The contractor and government made mutually agreeable, early and challenging, long-term pricing commitment to one another. Using a "carrot and stick" approach, the government agreed that if the contractor meets its commitment to the unit price, then the government would:

* not require cost data;
* nor require negotiation;
* not ask for new technical proposals for each production lot ordered;
* not mandate subcontractor competition (goal was to encourage a long-term, collaborative relationship, thus providing stability for capital investment and encourage supplier warranties); and
* no in-plant oversight.

The contractor was also given the right to make unilateral changes to reduce cost as long as it was transparent to the user, but with government notification.

But what if the contractor does not live up to its promise? The answer — the "stick" — government business as usual: oversight, technical proposals, cost data, and potential loss of future business, since the contractor is required to deliver engineering data to allow the government the ability to compete future buys.

There were several other lessons learned from the JDAM program efforts. During the competitive Demonstration/Validation phase, the JDAM program originally included an Award fee to motivate the contractor. Their findings, similar to the Multiple Launch Rocket System, were that during the competitive phase, as they strove to achieve cost goals, the award fee was not effective; rather, competition drove the contractor's efforts.

Teaming was also a critical part to the success of the program's efforts. During the Demonstration/Validation phase of the program, two Integrated Product Teams (government and industry) each struggled with the issue of lowering the cost of the production items. This created a sense of teamwork, an understanding of the "real" Air Force issues, and a buy-in to the need to lower the cost of the system.

Often small efforts can lead to significant cost savings. The JDAM $25 Power Transistor is a good example. The original requirement was for a 2500 in-lbs. stall torque requirement. The first trade came when they were asked to ease the 2500 in-lbs. stall torque requirement to 1600 in lb. The prime agreed with the subcontractor's recommended change in requirement, and the cost dropped to $15 per transistor. The next change — could we live with a commercial part? Would it meet our environmental requirements? Answer — yes. This lowered the cost to $4.05. This may not seem like much, but saving 20.95 per transistor, times the 24 in the system and the 74,000 units to be bought, equates to a $37.2M program savings. It is the small things that add up to the big things!

The final price commitment — $14K per unit!

According to Little, "CAIV can work when everyone is an owner of the issue — that includes the users and engineers, rather than just the bean counters and managers."[15]

Observations On How to Implement CAIV

Affordability will be a key requirement of any future weapon system. This translates into a need for making cost as an independent variable with performance and schedule at the dependent variables. Design to Cost was not a success for a variety of reasons, but a primary problem was the unwillingness to make cost, performance, and schedule trade-offs. Cost as an inde-

pendent variable means cost is, and must be, in the tradespace. It can be traded for requirements verification (Military Specifications and Standards), performance (that last 2 percent), and schedule (accelerating or decelerating).

How Would You Structure a Successful Cost As an Independent Variable Approach?

Start early. If your system is in the demonstration/validation phase, then CAIV provides an early opportunity, for industry and the government, to focus on a goal. Performance and design trades are made easier, and at less cost then, once the contractor has designed and tested the item.

Get your hands on the real requirements. Most discussion of requirements focus on the user requirements, but technical requirements with cost implications are also mandated by the SPO when they translate the users' requirements into a statement of work or a specification. The contractor also imposes requirements on the system by his design process. The program office must keep these issues in mind as it implements CAIV. First, a systematic process that ties the SPO and the user together, must be in place to evaluate requirement changes and provide expeditious response. The user also needs information — what is the real cost of his or her requirement? A small increase in reliability may not provide enough military usefulness when traded off for the cost of its achievement. The JDAM's "Live or Die" approach to requirements provides one example of incorporating the user into a real evaluation of his or her requirements. By being flexible about the design and ranking performance parameters, the contractor is provided trade-off guidelines.

If the relative importance of specific performance requirements can also be identified, the contractor can focus its efforts in the most fruitful areas for which the government is willing to consider changes. The second issue is

SPO-issued requirements. As seen in the A-10 example, the move to performance statements of work and specifications and/or statement of objectives helps in the design trade-off process by again providing the contractor with flexibility. Finally, the contractor, through its engineering design practices, can also impose non-cost conscious requirements on the design. It is critical that part of the contractor's design engineering practices be cost consideration. I would also not restrict the analysis to just the design engineering portion of the contractor's organization. The production process and environment are just as important in attempting to achieve lower costs.

The recent PBS special, "Accidental Empires, Triumph of the Nerds," highlights DTC in action. In designing the original Apple II Computer, Steven Wocsniak achieved a "model of efficient engineering." Because of the large demand for chips, traditionalists would have known it was impossible to design a "personal computer." Not knowing it was impossible, "Woz" ended up using his own sense of design. Rather than two memory chips — one for the TV screen and one for the computer — he combined them. For the floppy disc drive controller, he needed only eight versus the traditionalist's 35 chips. This model of efficient engineering made for a sleek looking model and created the "Personal Computer." It is this type of continual technical evaluation of design, technical effectiveness, and cost trade-offs that are necessary to meet CAIV goals. Just as in the Commercial market **Cost/Price** is the independent variable, so too in the government it must be one of the program's design parameters.

How Will You Establish a CAIV Goal?

If the acquisition is competitive, the contractor can be asked to propose, or our "goal" (hopefully based upon some reasonable estimate) could be provided. I like the JDAM approach to apply the goal to unit one. The price is then set for future buys, tied to the

learning curve costs (with rewards and penalties). It is also important to allocate CAIV goals down the Work Breakdown Structure and track costs regularly for both primes and subs (60 percent of work may be with subs). Consideration should be given to having a goal for subcontractors. It is critical that Life Cycle Cost impacts always be considered as part of contractor trades. If the acquisition is sole-source, an integrated effort, government and contractor, is necessary to develop a goal that both parties can agree is reasonable and achievable.

How Will You Manage CAIV?

Government management emphasis and organizational penetration into the contractor's organization are the main keys to success of DTC and by extension to CAIV. The emphasis on CAIV must start with the source selection process. The request for proposal and the source selection criteria both must emphasize the importance of cost trade efforts. Once the contract is awarded, government management must continually follow up with concern for the contractor's efforts in implementing CAIV. As seen in the A-10 and the JDAM cases, a competitive phase provides an opportunity to successfully motivate a contractor to focus on cost. Management interest in CAIV should be part of design review, program reviews, and other government industry meetings. It should be stressed to the contractor that this needs to be a part of its engineering design process. Once a single contractor has been selected, the use of award fees provides an effective tool to motivate contractor's efforts.

Certainly, CAIV will not happen by putting it on contract. The contractor's management personnel have conflicting motivations. Not only do they want to perform on the current contract, but they are interested in winning the next contract. They also must deal with organizational and personnel issues, and a reward system that may actually conflict with successful performance (as seen by the government) on your contract. For example,

companies often pay bonuses based upon increase in cash flow and increase in orders or new business. Additionally, as illustrated in the AMRAAM example, the contract DTC requirement got lost in the "contracting or finance shop" and did not "flow down" to the person designing the equipment. This is why the government must demonstrate to the contractor that CAIV is important and must be in the forefront of the contractor's management of the program. One final thought — use technology to lower cost, not increase performance — this is aimed at engineers who have for years been encouraged to rank performance over cost.

What Type Of Feedback is Needed to Accomplish Your CAIV Goals?

Will you receive monthly, quarterly reports? How will you handle feedback in the SPO? Who is the person responsible for making the process work? How will feedback be evaluated?

What is the Contractor's Approach to CAIV?

Does it have a separate design trade-off process? Are you satisfied with it? Do its designers buy into process? Does it have "redesign" built into the production process?[16] Can it make changes without SPO concurrence? What is its reward for CAIV? Will it increase or decrease profit by CAIV? Is anyone other than the "bean counters" aware of CAIV? Is CAIV a management issue at the company? What actions to be taken by contractor employees are critical to success? How much of the work is being subcontracted? What are the incentives for the subcontractors — award fees and performance penalties? What are the penalties if the contractor fails?

CAIV May Require More Up-front Money!!

How do you handle that if you don't have it? Could Value Engineering Change Proposals be used?

Remember Problems With DTC:
• Unwillingness to make trade-offs.

• Perception that government was not interested in making trade-offs.
• Contractor's motivations versus ours.
• Often used only as a cost-monitoring device.

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Babbit returns to DLA as New Agency Director

FROM THE DLA PUBLIC AFFAIRS OFFICE

Lt. Gen. George T. Babbitt, U.S. Air Force, has been named by the Secretary of Defense as the next Director of the Defense Logistics Agency (DLA). Babbitt, who left the agency a little more than a year ago after promotion to three-star rank, is the Deputy Chief of Staff for Logistics, Headquarters U.S. Air Force. He will assume command of the 50,000-employee Combat Support Agency on October 25 upon the retirement of Vice Adm. Edward M. Straw, Supply Corps, U.S. Navy. A career Air Force logistician, Babbitt was commissioned in 1965 through the Reserve Officer Training Corps at the University of Washington and was raised in the state of Washington.

As the buying agent for all branches of America's Military Services and a number of federal organizations, DLA annually purchases and distributes nearly $11 billion of food, clothing, medical supplies, construction supplies, spare parts, electronics, and fuel. Its Defense Contract Management Command supervises the completion of more than 360,000 contracts per year—worth more than $900 billion—by private companies for the Military Services and federal organizations.

Straw, a native of Marysville, Pennsylvania, joined the Navy Supply Corps upon commissioning from the U.S. Naval Academy in 1961. He has been the senior Navy Supply Corps officer and the agency's director since July, 1992. During his tenure as Director, Straw was personally presented the Defense Distinguished Service Medal by Secretary of Defense William Perry, and the Agency received its second Joint Meritorious Unit Award, presented by Under Secretary of Defense (Acquisition & Technology) Dr. Paul G. Kaminski.

Aviation Warfare Systems Operator Master Chief and Naval Aircrewman (AWCM[AW/NAC]) Samuel J. Hindman, U.S. Navy, joined the DSMC staff as the Senior Enlisted Advisor effective August 1996. Hindman comes to the College from the Office of the Program Executive Officer for Air ASW Assault and Special Mission Programs (PEO[A]), where he served as Assistant Program Manager for Acoustics and Avionics Integration at PMA-264, Crystal City, Virginia.

Joining the Navy in May of 1968, he completed his recruit training at Great Lakes, Illinois. His subsequent career included several key assignments at Naval Air Station Lemoore, California; Naval Air Station Cubi Point, Republic of the Philippines; Naval Air Station Whiting Field, Milton, Florida; Naval Air Station North Island, San Diego, California; Naval Air Station Moffett Field, California; Naval Air Station Jacksonville, Florida; Naval Air Station Norfolk, Virginia; Naval Air Station Bermuda; and Washington D.C.

His career also includes deployments to the Western Pacific in support of operations in and around North and South Viet Nam and North and South Korea onboard the *USS Oriskany*; a deployment aboard the *USS Enterprise*, in conjunction with a successful transition to the S-3A aircraft; and deployments to Kadena, Japan; Diego Garcia, British Indian Ocean Territory; and Adak, Alaska, as an aircrewman onboard the P-3C aircraft. He has also served as an aircrew instructor on the SH-3H helicopter.

In September 1976 Hindman attended the AW class "A" school in Millington, Tennessee, and became a permanent flight crew member. He also holds a Bachelor of Science Degree in Computer Science from Strayer College. His military decorations include two Navy Commendation Medals, two Navy Achievement Medals, and numerous unit and campaign awards.

Hindman and his wife, Cathy, reside in Dale City, Virginia. They are the parents of two daughters: Jessica (5) and Jenny (3).

Army Lt. Col John Peeler became the Executive Officer to the Commandant, DSMC, effective July 29, 1996. A 1977 graduate of the United States Military Academy, he was commissioned as a Field Artillery officer and served in a variety of assignments in 172d Light Infantry Brigade, Field Artillery School, Field Artillery Training Center, and the 194th Separate Armored Brigade.

His acquisition assignments include: U.S. Army Armor and Engineer Board (1985-88); Joint-Over-the-Horizon Targeting Joint Test Element (1990-93); and Office of the Secretary of the Army for Research, Development, and Acquisition (1993-96). He is a graduate of the Field Artillery Officer Basic/Advanced Courses, Combined Arms Services Staff School, Command and General Staff College, the Materiel Acquisition Management Course, and the Defense Systems Management College's Program Management Course 93-1.

Peeler is married to the former Diane Talmadge and has two sons: Brian (10) and David (8).

U.S. Navy Capt. Robert J. Vernon joined the DSMC staff as Dean, School of Program Management Division, effective June 18, 1996. Vernon is a native of Illinois and joins our staff from his previous assignment as Deputy Program Manager for Test and Evaluation and Navy Requirements Coordinator in the V-22 "Osprey" Program Office.

Enlisting in the Aviation Reserve Officer Candidate program in 1971, Vernon was commissioned in September 1974. In October 1975 he was designated an unrestricted Naval Aviator.

His military career includes several key assignments as Commanding Officer/Executive Officer, San Diego, California; End Strength Coordinator, Washington, D.C.; Officer-in-charge (OIC)/Assistant OIC Light Airborne Multi-purpose System (LAMPS MKIII) Detachments to the Western Pacific (Indian Ocean/Persian Gulf), San Diego, California; Subject Matter Expert for Curriculum Development and Plankowner for the Navy's First LAMPS MKIII (SH-60B) Fleet Replacement Squadron, San Diego, California; LAMPS MKIII Project Pilot during SH-60B Operational Test and Evaluation (OPEVAL) and Operational Test Director (OTD) for the Dwarf Sonobuoy Program at Air Test and Evaluation Squadron One (VX-1), Naval Air Station Patuxent River, Maryland; and Helicopter Anti-submarine Squadron Eight (HS-8) San Diego, California.

Vernon holds a Bachelor of Science (Economics) from the University of Illinois (1974). He is also a graduate of PMC 93-1, DSMC.

He and his wife, Roberta, reside in Montclair, Virginia, with their daughter, Elizabeth (4). His two older children, Abby (17) and John (14), reside in San Diego, California.

Army Col. Charles W. Westrip, Jr., became the Dean of College Administration and Services, DSMC, effective August 5, 1996. Westrip comes to the College from his former assignment as Commander, Defense Contract Management Command, Pacific.

A graduate of Florida State University, he holds a B.S. in Business Administration and Criminology and an M.S. in Contract and Procurement Management from Florida State University. He also holds an M.A. in National Security and Strategic Studies from the Naval War College. He is a graduate of the Quartermaster Basic/Advanced Courses; Defense Contract Basic/Advanced Courses; Program Management Course; Army Command and General Staff College; and Naval Command and Staff College. He also trained with industry at the Sperry Defense Electronics Corporation and is a 1994 graduate of the U.S. Army War College.

Reporting for duty with the U.S. Army in August 1971, his early assignments included platoon leader, detachment commander, battalion S4, aide-de-camp, and company commander. His acquisition assignments included Procuring and Contracting Officer, Defense Personnel Support Center (DPSC); Executive Officer to the Director, U.S. Army Contracting Support Agency; Commander, Defense Plant Representatives Office Grumman; Deputy Chief of Staff and Army Program Officer for the Weapons System Team, Headquarters, Defense Contract Management Command; Procurement Staff Officer for the Army Competition Advocate General; and Plans and Operations Officer for the Program Manager, Saudi Arabian National Guard Modernization Program.

Westrip is married to the former Kathleen Murray of Alexandria, Virginia. They have a son, Patrick, and daughter born in Korea, Charleen.

Applying Commercial Processes to Defense Acquisition

If the DoD is to Attract World-class Manufacturers, It Must Become a World-class Customer

MARY E. KINSELLA • MICHAEL E. HEBERLING

As the traditional defense industrial base decreases in both size and capability, the Department of Defense (DoD) must increasingly turn to the commercial sector to meet its future security requirements. A shift to the commercial sector is a way to contain both the cost and the time it takes to procure weapon systems. Of particular interest to the DoD are those firms that are capable of dual-use manufacturing. The advantages of dual-use procurement include access to more affordable, high-quality production facilities, and in some cases, greater technical expertise. In spite of these benefits, few examples of purely commercial firms making military-unique products exist.

Industry's Reluctance and Why

For a number of reasons, both real and perceived, many dual-use capable firms are reluctant to do business with the DoD. Government work comes with a reputation for excessive and burdensome oversight, compliance and reporting requirements. While these companies are willing to provide commercial products to the DoD on normal business terms, they are unwilling to change their internal operations to produce military-unique products, especially for what is per-

ELECTRONICS MODULES COMPATIBLE WITH THE F-22 ADVANCED TACTICAL FIGHTER AND THE RAH-66 COMANCHE HELICOPTER WILL BE PROCESSED ON A COMMERCIAL AUTOMOTIVE MANUFACTURING LINE.

Kinsella is the program manager for the "Military Products From Commercial Lines" Pilot Program. She is currently assigned to the Manufacturing Technology Directorate of Wright Laboratory at Wright-Patterson Air Force Base, Ohio. Heberling is a senior policy and business analyst with the Anteon Corporation, Dayton, Ohio.

Photo courtesy TRW Inc.
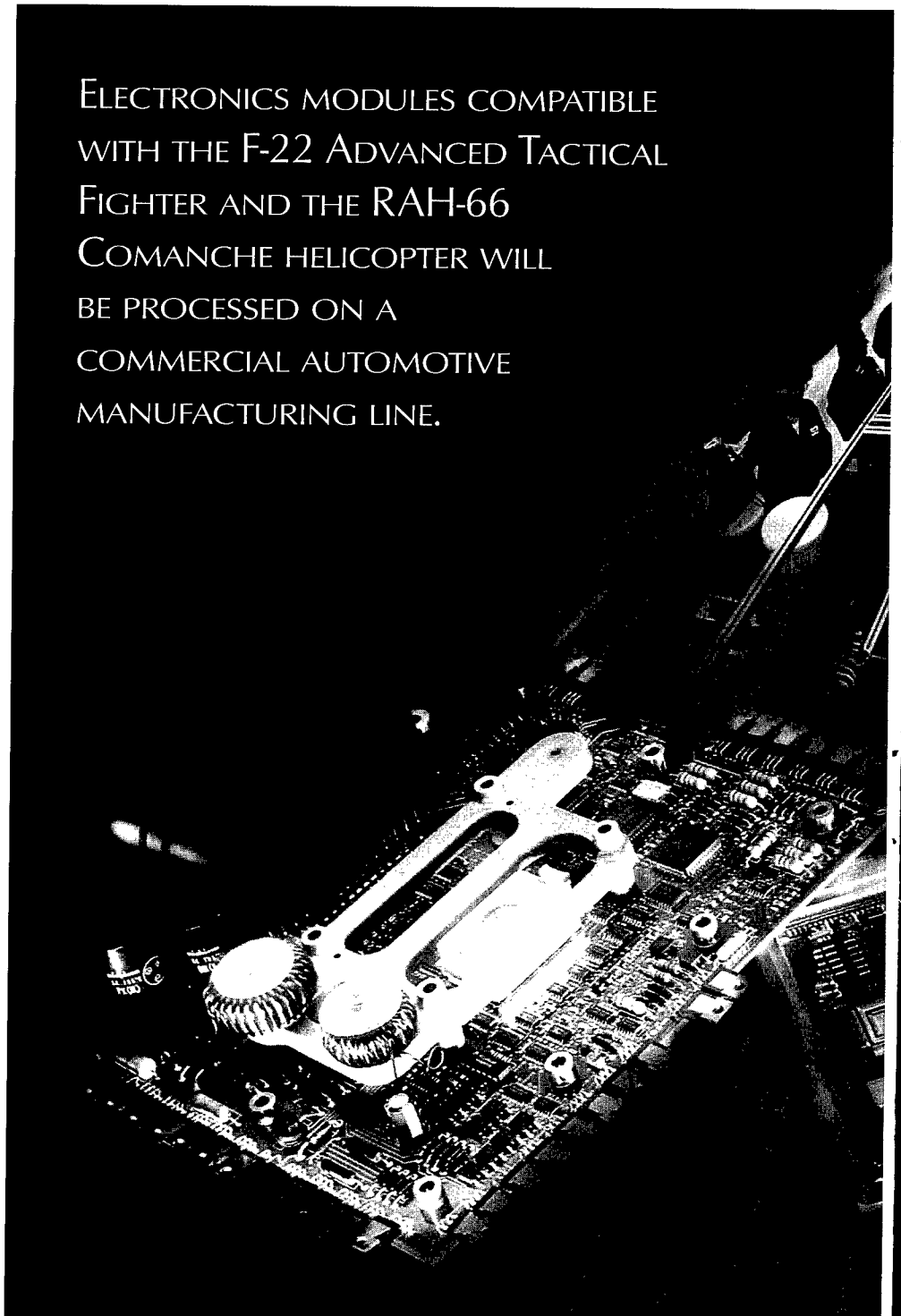
ceived to be a small, one-time customer.

A world-class commercial manufacturer can produce electronic modules similar to those required by the military using a relatively simple contract. Commercial contracts have significantly fewer terms and conditions. They also have fewer technical specifications and standards when compared to similar military contracts. An Industrial Base Pilot (IBP) program administered by the Manufacturing Technology Directorate of USAF Wright Laboratory directly addresses the issues associated with integrated manufacturing. The objective of the "Military Products From Commercial Lines" IBP is to demonstrate the production of military components on a commercial line at lower cost (30-50 percent below the military baseline) and at comparable quality to those produced on a dedicated military line. The IBP will employ a commercial automotive manufacturing line to produce demonstration electronic modules compatible with both the Air Force F-22 Advanced Tactical Fighter and the Army RAH-66 Comanche Helicopter.

Background

The decline in both the acquisition budget and the defense industrial base makes it clear that the Defense Department must change the way it procures weapon systems. To address this issue, DoD conducted numerous industrial base studies plus Congress enacted changes in the Federal Acquisition Regulation (FAR) and the DoD Acquisition Policy (the 5000 Series Directives).

Manufacturing 2005

The "Military Products From Commercial Lines" IBP program traces its origins to the Manufacturing 2005 Study. This was a major investigation of the defense industrial base initiated by Air Force Systems Command. The conclusions and recommendations of 2005 were established jointly with industry. The study, completed in 1991, found that a future industrial strategy would have to accommodate decreasing defense budgets, changing enemy threats, and the realities of the commercial marketplace. Consequently, the DoD must be in a position to maintain a smaller but more robust industrial base. For this to occur, the DoD must take steps to encourage cultural changes in technical and business areas. An important conclusion of the 2005 study was that the DoD must facilitate integration of commercial and military sectors of the industrial base. The Industrial Base Pilot is one program created to test the feasibility of such an integrated manufacturing operation.

To strengthen the industrial base, the Manufacturing 2005 assessment identified six areas that needed attention: Integrated Product and Process Development (IPPD) Methods, A Focus on Quality, Commercial and Military Integration, International Sourcing, Flexible/Lean Manufacturing, and Vertical Partnering. In response, Wright Laboratory issued a Broad Agency Announcement (BAA) in 1993 soliciting proposal abstracts that address one or more of these areas.

Of the BAA offers received, only TRW's Avionics Systems Division (ASD) proposed subcontracting to a commercial firm to demonstrate dual-use production. Its managers have extensive military experience. They proposed to redesign existing F-22 and Comanche avionics modules to allow them to be manufactured by their purely commercial TRW sister division, the Automotive Electronics Group (AEG).

Acquisition Reform Legislation

The acquisition reform initiatives of the Federal Acquisition Streamlining Act (FASA) of 1994 and the Federal Acquisition Reform Act (FARA) of 1996 were both substantial and positive. These two pieces of legislation made major inroads in the DoD's ability to go to the private sector for commercial-off-the-shelf (COTS) items. Numerous areas frequently seen as barriers to the procurement of commercial items were modified or eliminated. This includes provisions of the Truth in Negotiations Act (TINA), Cost Accounting Standards (CAS), and technical data rights.

Unfortunately, this latest round of procurement reform legislation does not directly address the case of a purely commercial firm producing military-unique items. The IBP program fits into this category. A dual-use capable firm, with no prior DoD experience, can still encounter numerous restrictive government terms and conditions

if the procurement does not meet the conditions necessary for commercial item acquisition. This situation has led to differing interpretations of the intent and applicability of the reform legislation relative to integrated manufacturing.

New DoD 5000 Acquisition Policy Update

In March 1996, the Secretary of Defense signed DoD Directive 5000.1 and the Deputy Secretary of Defense signed DoD 5000.2R. These updated directives establish the foundation for DoD acquisition policy. The revisions make significant changes in the way business is conducted within the DoD for the acquisition of both weapons systems and automated information systems.

While "Military Products From Commercial Lines" was initiated prior to the latest revision to the DoD 5000 series, the program incorporates many of the major themes found in the update. These include emphasis on five specific areas:

- *Teamwork* — To maximize overall performance.
- *Empowerment* — A shift away from rigid military specifications to encourage prudent risk management.
- *Cost as an Independent Variable* — Consideration of both performance and fiscal constraints.
- *Commercial Products* — Integrating a constricting defense industrial base with the fast-paced technology of the commercial sector to provide rapid and affordable alternatives to validated DoD requirements
- *Best Practices* — Taking into account customary commercial practices in developing acquisition strategies and contracting arrangements

The Air Force ManTech IBP meets the objectives of the new 5000 series. It also provides program managers with a preview of the opportunities and barriers inherent in turning to the commercial sector for military-unique requirements.

Purpose of the Program

The goal of the IBP program is to demonstrate the commercial production of military components at lower cost, comparable quality, and equivalent functionality to those produced on a military line. A key emphasis of the program is the identification and adoption of best practices in the acquisition of defense systems. As the IBP proceeds, the team will be collecting data, making recommendations, demonstrating best practices, and documenting areas for improvement. Those government policies and practices that hinder access to the commercial sector both in the technical and business arenas will be identified.

The IBP will show the implications of flexible manufacturing, which makes it feasible for the DoD to take advantage of existing high-quality commercial electronics production lines. Consequently, the need to establish and maintain dedicated military production lines will be significantly reduced.

Finally, it is also the goal of the IBP to transfer findings, lessons learned, and recommendations to the entire acquisition community. If the program is successful in this area, future military electronics products will be built on commercial lines at significant cost savings. This should help pave the way for other military products as well.

Criteria For Success. The IBP will focus on changing the way government and industry conduct business to facilitate the integration of commercial and military segments of the industrial base. Through commercial manufacturing demonstrations, the IBP will provide data to support the idea that the use of commercial manufacturing and business practices can save money for DoD. For IBP modules, this target cost savings is 30-50 percent as compared to the military baseline.

The IBP metrics are defined in categories that reflect program objectives: price/profit optimization, technical performance, and transfer. Therefore, the price of IBP modules must reflect the

target savings while providing reasonable profit for the commercial supplier. Technical performance must mirror military requirements in form, fit, and function, while exhibiting equal or better quality levels. And although the IBP demonstration is key, success means enabling other current and future programs to realize similar benefits. Hence the emphasis on transfer of concepts, practices, and lessons learned.

Description of Program

Electronics modules compatible with the F-22 Advanced Tactical Fighter and the RAH-66 Comanche helicopter will be processed on a commercial automotive manufacturing line. The data collected throughout the program will be used by the F-22 System Program Office and the RAH-66 Program Management Office to determine if cost savings are sufficient to warrant future purchase of commercially manufactured military electronic modules. The pilot contract, administered by ManTech, was awarded in May 1994 to TRW's Avionics System Division (ASD) and subcontracted to TRW Automotive Electronics Group (AEG).

The IBP is using an integrated product team approach to address three areas: business practices, manufacturing infrastructure, and process technology. The TRW AEG production facility located in Marshall, Illinois, was chosen because of its primary products: airbag sensor modules and diesel engine control modules, which are safety-critical and have technology similarities to the demonstration avionics modules of the pilot. The AEG facility manufactures automotive electronic products for all major automotive manufacturers worldwide.

To accomplish the objectives of the pilot, TRW ASD designers have been working with TRW AEG designers and manufacturers in a concurrent fashion to redesign the military modules for commercial production. Minimal changes will be made to an existing automotive electronics manufacturing line to fabricate the low-volume/high-cost military avionics modules. The

pilot will enhance the capabilities of AEG's computer integrated manufacturing (CIM) system to economically produce a mix of low-volume and high-volume products. Currently, AEG caters to customers with large-volume requirements.

Business Practices (BP). The IBP's BP team is examining policies and practices that discourage commercial firms from seeking government work. The areas that are being addressed include: military-unique product and process specifications, government accounting standards, cost data requirements, oversight provisions, socio-economic requirements, and technical data rights. In making recommendations for change, the BP team's strategy is to use AEG as the baseline for determining best commercial practices, define requirements without using military specifications and standards (by taking advantage of industry standards and practices), and leverage existing and ongoing acquisition reform initiatives. The BP team will capture its findings and recommendations for documentation and dissemination to the DoD acquisition community.

Early on in the IBP, analyses compared sample military and commercial contracts. These analyses simply serve as a frame of reference for the differences in the two procurement systems. A typical military contract could have as many as 183 terms and conditions. In contrast, a typical commercial contract for AEG has 27 terms and conditions. For technical specifications and standards, the military contract has 204, while a commercial contract has only 35. Another early analysis showed commercial manufacturing costs to be 21 percent of military manufacturing costs to build a similar electronics module. The challenge to the BP team, then, is to determine how defense manufacturing can benefit from the efficiencies and cost savings exhibited by the commercial manufacturer.

Manufacturing Infrastructure (MI). The MI covers the set of processes and resources employed during design and

production but not delivered as part of the final product. The MI goals are to facilitate team communication, eliminate non-value added development activities, support design activities with an emphasis on design for manufacturability (DFM), enhance computer integrated manufacturing (CIM), and optimize throughput and capital utilization.

The first step for the MI team was to evaluate the existing infrastructure at both TRW ASD and TRW AEG. The second step was to select the best characteristics from the two; for example, ASD's design tools and techniques plus AEG's manufacturing methods.

A major effort for the MI team is CIM. Functional requirements of the CIM system include a transparent design-to-production interface, rapid production changeover, production performance tracking, and mistake-proofing. A major challenge is the accommodation of low-volume lots on a high-volume, low-product mix manufacturing line. The MI team is working to enhance AEG's CIM system for maximum line flexibility. For example, the CIM system will automate software downloading and optimize lot size for more efficient changeover from product to product.

Process Technology (PT). The PT effort includes redesign of military modules for commercial production and the processing of prototype modules to validate BP and MI changes. The PT team selected two Communication, Navigation, and Identification (CNI) modules for the IBP demonstration: the Pulse Narrowband Processor (PNP) and the RF Front End Controller (FEC). Boards produced during the IBP program will be subject to the same functional and environmental tests required by the F-22 System Project Office for F-22 modules.

The conceptual design process involved both design and manufacturing engineers from the military and automotive divisions. The PT team created a design evaluation matrix that uses diverse

scoring factors weighted by level of importance for 29 different design approaches. These scoring factors included: fit, functionality, design and production risks, life cycle costs (LCC), DFM, transferability to other domestic commercial manufacturers, commonality to other platforms, obsolescence predictions, weight, and recurring and non-recurring (NRE) cost. As in commercial practice, DFM was weighted very heavily to maximize the efficiencies of a high-quality, automated manufacturing process.

The PT team is also conducting a series of tests to reduce the risk for reliability and durability prior to the IBP validation runs. Design validation (DV) hardware will be manufactured during Phase 2, and production validation (PV) hardware will be manufactured during Phase 3. Both DV and PV will take place in the AEG commercial electronics production facility in Marshall, Illinois. The F-22 and RAH-66 programs will have the option of using IBP modules for qualification and potential flight testing.

Demonstration. The two major demonstrations scheduled in the IBP are the DV and PV previously mentioned. But these demonstrations encompass more than module assembly. Other concepts will be incorporated in these demonstrations such as:

- a commercial subcontract, i.e., with commercial terms and conditions, performance specifications, and requirements based on industry standards;
- the incorporation of small lot sizes among high-volume production;
- assembly of a high-end, complex design on an automotive electronics production line;
- use of large plastic ball grid array (BGA) packages; and
- use of commercial supplier, business, and manufacturing practices.

The testing which occurs throughout IBP, in conjunction with DV and PV testing, will provide the data to determine whether or not IBP modules

Figure 1. "Four Wins"

TRW AEG (Commercial Company)

- Increased Business Potential Resulting from Qualification for Manufacture of Military Hardware
- Acquisition of Advanced Process Technology
- Acquisition of Infrastructure Technology

F-22, RAH-66 (System Office)

- 50% Cost Savings for Electronics Modules
- Functional Equivalence
- Schedule Compatibility
- Transfer of BPs to Benefit DoD Systems

BENEFITS

MANTECH

- Change Agent for a Commercial-Military Industrial Base
- Risk Reduction for DoD Business with Commercial Manufacturers
- Documentation and Transfer of Validated Practices
- Demonstration of Pilot Strategy Viability

TRW ASD (Military Company)

- 50% Lower Production Cost
- 50% Reduction in Design Cycle
- Lean Enterprise Processes
- Seamless Partnering with Commercial Companies

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meet military requirements. Several cost and manufacturing metrics will be used to determine the success of the other demonstrated concepts listed above. Once the DV and PV demonstrations are completed and data is collected, the IBP team will document recommendations and conclusions for transfer. These documents will include a model contract, a technical business handbook, and phase reports.

Program Management

An integrated product team approach is used to manage the IBP program. A unique aspect of this teaming approach is the inclusion of government personnel as participants, not merely as overseers. The IBP is an R&D contract within the laboratory structure, and is providing data and recommendations for immediate use by DoD system offices, their prime contractors, and sub-tier suppliers. The specific program demonstration vehicles are compatible with the F-22 and the RAH-66. Consequently, the team includes players from AF ManTech, TRW ASD, TRW AEG, F-22 System Program Office, RAH-66 Program

Management Office, Lockheed Martin (F-22 prime), and the Boeing-Sikorsky Joint Program Office (RAH-66 prime).

While a core portion of the team remains relatively fixed, the nature of the team as a whole is dynamic. Manufacturing, design, quality, contracting, policy, financial, and legal personnel, both military and commercial, are all contributors to IBP. Management challenges arise due to the number of organizations involved and their geographic distribution. Several communication tools and practices, such as weekly staff teleconferences and quarterly self assessments, have been implemented. Electronic communication is heavily relied upon to minimize travel and paperwork costs.

The Four Wins

The IBP team has established a "Four Wins" scenario that defines what each major player expects from IBP, based on organizational goals and program objectives (Figure 1). The Four Wins were generated in the early stages of IBP through team training and are used as a basis for management operations and decision making. Look-

ing at it generically, the Four Wins describe how the IBP is fundamentally designed, i.e., as a partnership between the defense contractor, the commercial supplier, the system program office, and AF ManTech, the catalyst. Such a design allows DoD systems to benefit from the demonstration, validation, and transfer of new concepts, while IBP absorbs a major portion of the risk.

Breaking Down Barriers

The IBP program is designed to identify and address barriers to business relationships between defense and commercial organizations. Any barrier – technical, business, or cultural; real or perceived – may deter the involvement of commercial manufacturers in defense work. Breaking down these barriers means defining the root of the issue, identifying possible fixes, and recommending and implementing the best solution.

Reluctance of Commercial Firms to Seek DoD Work. Many commercial firms although dual-use capable, are unwilling to engage in DoD business. Typically these firms manage successful businesses without DoD customers and, since DoD business is not perceived as a big money-maker, they are not motivated to pursue DoD work. As commercial suppliers see it, the DoD is a difficult customer with extensive reporting, compliance, and oversight requirements. Furthermore, the instability of requirements and budgets, the government's right to terminate contracts at will, the risk of a protest, and the risk of inadvertently failing to comply with a rule or regulation that will lead to criminal or civil penalties are all reasons that many companies avoid DoD business. In fact many commercial, world-class manufacturers do not even read the *Commerce Business Daily* (CBD) when seeking new work.

In breaking down this barrier, the IBP first came to the realization that world-class commercial manufacturers are not coming to DoD; DoD must find them. The next IBP revelation was that it must not only be feasible for com-

mercial suppliers to work with DoD, it must be inviting. That is, the customer must appeal to the supplier's bottom line.

The Commercial Item Definition. A major tenet of the FASA and FARA initiatives is to use commercial products to the maximum extent possible in meeting military requirements. Enactment of FASA modified or eliminated numerous barriers to reform, including TINA, CAS, and technical data rights. However these benefits are realized only if the acquisition falls under the definition of a commercial item.

The IBP has found that, although the revised acquisition regulations work well for commercial off-the-shelf items, the new regulations are not clear when it comes to procuring military-unique products from dual-use capable commercial firms. By default, the solution is to treat dual-use firms as if they were defense contractors, requiring them to adhere to unique government contracting laws designed to promote fairness, discourage fraud, and further socio-economic objectives. Extensive cost and pricing data to verify the fairness and the reasonableness of their offer are also required. Figure 2 shows the major contractual areas that pose a problem for commercial firms.

In breaking down this barrier, the IBP will attempt to demonstrate the use of the definition of commercial items on the IBP subcontract with AEG. This will set a precedent for the use of the definition for military-unique products built on dual-use commercial manufacturing lines. The IBP will furthermore recommend necessary changes to the definition, if any, such that it is clearly applicable to other programs procuring military products from commercial lines.

Cost and Pricing Issues. The most contentious area for AEG deals with the numerous cost and pricing data requirements of TINA and CAS. This issue was also identified in a 1991 study by the Center for Strategic and International Studies. The CSIS Steer-

ing Committee on Security and Technology concluded: "The cost accounting principles, standards, and reporting requirements pose a barrier both to DoD access to commercial state-of-the-art technology as well as the purchase of defense items produced in commercial facilities." Because AEG is a commercial production firm, they have not had a previous business relationship with the government. In contrast to a typical defense contractor, AEG has never generated cost data that is compliant with CAS. Instead, AEG maintains an accounting system which is compliant with Generally Accepted Accounting Practices (GAAP). Unlike CAS, AEG's accounting data are collected at a more generalized level. Costs are not differentiated between "allowable" and "unallowable." Their source documents are maintained in accordance with the federal tax code and the practices of their specific market.

In the absence of competition, the government procurement regulations require extensive cost and pricing data from those firms, defense or commercial, that make military-unique items. While the new regulations have made it easier to qualify for an exception to the cost and pricing data requirements of TINA and CAS for commercial-off-the-shelf items, it is more difficult for

military-unique products to meet the criteria of adequate price competition or one of the TINA exceptions. This occurs because a military-unique item made by a dual-use firm typically does not have a catalog or market price, or may not qualify as a commercial item.

For commercial items, it is assumed that market forces will ensure a fair and reasonable price. Under these conditions, the DoD benefits from a very competitive domestic and international market. However, when the DoD turns to the commercial sector to meet its military-unique requirements, pricing becomes a major challenge, which severely complicates access to the commercial sector. The IBP will attempt to break down this barrier by recommending a pricing approach that does not rely on extensive cost and pricing data from the supplier. This will require a thorough understanding of market research and the adoption of commercial price analysis techniques.

Being a Good Customer
While the government has become intent on taking advantage of the commercial sector, it must acknowledge that many of its business practices serve to effectively discourage potential dual-use manufacturing firms from seeking military work. Most commer-

Figure 2. **Government Contracting Requirements Which Deter Commercial Suppliers**

Government Requirement	Government Intent	Commercial Objection
Cost and Pricing Data	Ensure a Fair and Reasonable Price	Proprietary – Key to Competitive Advantage
Cost Accounting Standards (CAS)	Ensure a Fair and Reasonable Price	Not a Commercial Practice – Requires Costly Infrastructure
Socio-Economic Provisions	Ensure Equal Opportunity	Not a Commercial Practice – Costly or Non Value-added
Data Rights	Allows Reprocurement From Another Source	Proprietary – Key to Competitive Advantage
Certifications	Ensure Compliance With Statutes	Duplicates Requirements of Existing State and Federal Laws

cial firms would be willing to provide goods and services to the DoD on normal business terms. However, they are unwilling to change their internal operations to accommodate what may well be a small, one-time customer.

As the single buyer in the defense market, the DoD has significant leverage over the defense industry. It now enters the commercial market, where it is just one of many buyers. The DoD must now come to the humbling realization that in the commercial market, it deserves and will receive the same treatment as the other customers, no more and no less. Under these conditions, the DoD is no longer in a position to dictate terms and conditions.

For commercial firms, competitive markets are the driving force leading to efficient internal operations. It is rare for one customer to dictate terms and conditions that change the internal operation of another firm. On occasion, suppliers will make special arrangements for preferred customers (i.e., those that show a significant long-term commitment). However, few commercial firms would put the DoD in this preferred category.

Consequently, proper consideration must be given customary commercial practices of dual-use firms when developing acquisition strategies and contracting arrangements. If the DoD is to attract world-class manufacturers, it must become a world-class customer. First, the DoD must continue its efforts to be commercial-like in its procurement practices. This includes adopting industry standards to define requirements and adopting a design-for-manufacturability philosophy. Second, commercial firms must not view the DoD in a negative light relative to their other customers. The DoD must establish its own "past performance" track record as a trusted customer.

The Business Case
To involve world-class commercial firms in defense work requires the development of a business model that balances the commercial firm's desire

for normal profits and restricted access to cost data with the military's desire for affordable products. The IBP program has developed a model that addresses these key requirements and can serve as the basis for future contract relationships between military contractors and commercial manufacturers. The model assures the government of a lower price for its hardware, while permitting the commercial firm to protect its cost data from competitors and earn normal profits. On the IBP program, this model has been employed and yields favorable results for achieving both military and commercial goals. The business model currently indicates an average module price that is approximately 40 percent less than the military baseline.

The IBP model suggests a business process between defense contractor and commercial manufacturer. Starting with a performance specification for a product, the commercial firm estimates the bill of material (BOM), labor, and non-recurring engineering (NRE) costs to produce the product on its commercial manufacturing line. Control mechanisms in the model are the return on assets employed (ROAE) target of the commercial firm and the cost target of the military customer. Assuming these control parameters are met, a process ensues whereby defense-unique requirements are negotiated and non-value added busi-

ness practices are eliminated. If these negotiations generate acceptable terms and conditions, the result is military products from commercial lines (Figure 3).

Conclusion
With affordability becoming a critical issue in weapon system acquisition, the DoD has little choice but to turn to the commercial sector to meet its military requirements. The defense community is changing the acquisition environment to allow for new business practices and commercialization. These changes have raised several issues in implementation. Within AF ManTech, the IBP program is meeting the issues head on in its demonstration of the commercial manufacture of military products.

What the IBP provides are data and lessons learned to assist program offices in applying commercial processes to defense acquisition. Data include analysis, design, manufacturing, test and cost; and lessons learned include topics such as contracting, teaming, defining requirements, and design for manufacture. The Number 1 benefit for military products from commercial lines is cost savings for DoD systems. While program offices are learning how to implement mandated change, the IBP is demonstrating the benefits in real time.

Figure 3. **The "Business Model"**
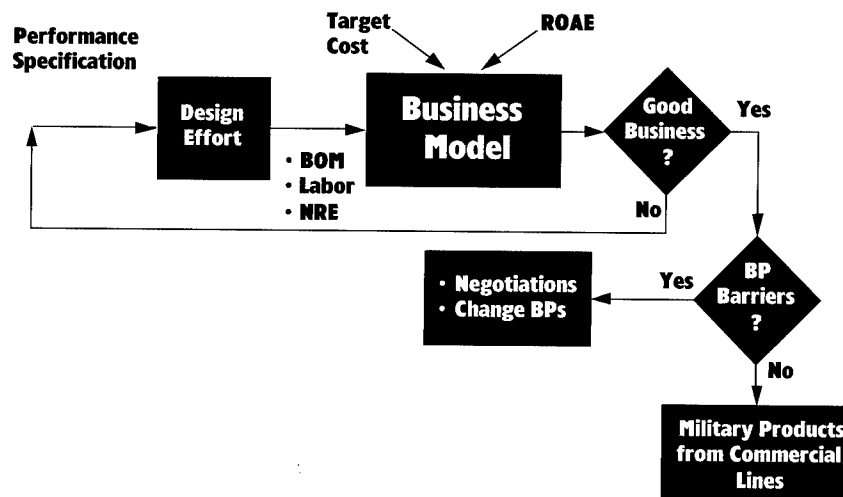
Center Deals With Counterfeit Material and Unauthorized Product Substitution

From the Defense Industrial Supply Center Public Affairs Office, Defense Logistics Agency

P. HARNER

The Defense Industrial Supply Center (DISC) in Northeast Philadelphia has a committee to detect and prevent the receipt of Counterfeit Material and Unauthorized Product Substitution (CM/UPS).

As a major field activity of the Defense Logistics Agency (DLA) at Fort Belvoir, Virginia, DISC supplies vital industrial items to all U.S. Armed Forces around the world.

When we speak of CM/UPS, we mean the misrepresentation of products furnished by contractors to the government, including bogus and counterfeit parts, assemblies with unapproved components, and products with unauthorized remarking/overbranding and falsified certifications.

A CM/UPS disclosure refers to a written or oral allegation that a contractor may have furnished and delivered to the government counterfeit material or unauthorized products.

The committee's work is an integral part of DISC's Business Integrity, Loss Prevention, and Recovery Program. Its goal is to improve the quality of DISC-managed items by preventing the entry of substandard parts into the DoD Supply System. When CM/UPS occurs, it consumes valuable resources and stops DISC from fulfilling its supply mission.

More importantly, it compromises the integrity of American combat forces, thereby unnecessarily endangering the lives of our servicemen and women around the world.

The Committee's procedures will determine if an item is counterfeit or if it has been substituted without authorization. They also provide a standard for recording and controlling findings of CM/UPS after investigation, and for appropriate closure.

The DISC is driven by DoD's requirement that material conform to contractual specification and quality requirements and that nonconforming material be rejected except where previously authorized via waiver or deviation.

Generally, the DISC Fraud Counsel serves as chair of the CM/UPS Committee. The remaining members consist of representatives from each Commodity Business Unit (CBU) and representatives from DISC's Materiel and Acquisition Management and Product Services Integrated Process Units (IPU).

During an investigation, the committee works closely with the Defense Criminal Investigative Service (DCIS) as well as the FBI and Military Service investigative agencies.

To date, several DISC associates have been recognized for their outstanding support to these agencies and for helping to recover millions of dollars in federal funds.

The DISC encourages submission of any CM/UPS suspicions for committee review, whether you suspect that contractors are engaging in product substitution, submitting false certifications to obtain an award, or any other CM/UPS suspicions. Contractors should be aware of the seriousness of engaging in CM/UPS at DISC.

Outsourcing Government Functions — A New Look At An Old Challenge

"The Central Focus of the Outsourcing Initiative is to Maintain and Improve Our Combat Effectiveness"

SUSAN J. HARVEY

Deputy Secretary of Defense John P. White addressed the need to outsource additional government functions currently performed by in-house federal civil servants or military. During hearings before the Senate Armed Services Subcommittee on Readiness on April 17, 1996, he stated that "The central focus of the outsourcing initiative is to maintain and improve our combat effectiveness. Outsourcing offers the opportunity to achieve that goal by generating savings for modernization, sustaining readiness, and improving the quality and efficiency of support to the warfighters."[1]

The Acquisition Reform Challenge

To further emphasize the importance of outsourcing to the Department of Defense (DoD), he stated that, "DoD Components will not have their out-year budgets reduced as a result of the savings they create through their initiatives, and that these savings should be dedicated to modernization."[2]

Earlier reports and research support White's emphasis on the value and benefits associated with outsourcing. The 1995 DoD Report, "Commission on Roles and Missions of the Armed Forces," stated, "Two major opportunities should be pursued aggressively: implementing the long-standing national policy of relying primarily on the private sector for services that need not be performed by the government, and reengineering the remaining government support organizations."[3] The 1995 "Report of the Defense Science Board Task Force on Quality of Life" stated, "Contracting for support services offers significant opportunities to relieve personnel tempo. Increased contractor support will also have a major impact on other quality-of-life issues."[4] The 1995 "Report on the Performance of DoD Commercial Activities" stated, "Despite long-standing policy to the contrary in Title 10 and elsewhere, government employees perform work that could be done as well in the private sector." The DoD annually reports to Congress that at least 250,000 civilian employees are performing commercial-type activities that do not need to be performed by government personnel.[5]

During the Roadshow IV, Acquisition Improvement Seminar, held July 18-20, 1995, Gilbert F. Decker, Assistant Secretary of the Army for Research, Development, and Acquisition, outlined his campaign plan for acquisition reform, which embodies a new way of doing business. In his view, key concepts to the acquisition challenge included:

- securing the future by teaming with industry;

- reducing or eliminating barriers to outsourcing; and
- moving to a cultural change.

In achieving these reforms, Decker added: "I'll waive anything not required by law."[6]

The recent emphasis on using outsourcing as a tool to increase efficiency and conserve resources represents a change of thinking by the DoD leadership. Previously, the government routinely and without a second thought took on new functions in-house. In a reversal of thinking, the government is now seeing the reenergizing of the long and frequently ignored national policy of relying on the private sector for goods and services when it is appropriate to do so.[7]

Identifying Potential Outsourcing Candidates

So, what stands in the way of outsourcing? For one thing, it is hard to do. For example, case-by-case research, study, and planning are required to determine that outsourcing is a viable option. Frequently cited conditions and concerns may make outsourcing the least attractive alternative. Some of these include:

- There may be statutory constraints associated with outsourcing a particular function. Certain statutory

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and regulatory provisions actually discourage outsourcing.

- There is legitimate concern for the potential displacement of professional government employees.
- The private sector may not produce similar services or products.
- The function may be a core governmental function.
- The function may be inherently governmental in nature.
- Current market conditions may not provide the competition needed for successful outsourcing.
- The private sector may provide similar services but at greater costs.
- Some agencies may not have the capability to offer centralized contract control to ensure effective quality management, to develop staff expertise and oversight capability, or to provide consistency.
- It may be difficult to write requirements with sufficient controls over quality.
- Program managers may not have the time for studying outsourcing as an alternative, nor the time for a lengthy procurement process.

These and other obstacles have to be overcome to initiate a successful outsourcing program.

Outsourcing Army Transition Services — A Case Study

The initial inclination of the government manager is to stay on course with the status quo — and put outsourcing in the too-hard-to-do category. White presented DoD Program Managers with a unique challenge and opportunity to contribute to force modernization by increased use of outsourcing, where appropriate. The Army transition program offers one example of a solution to the

JOB ASSISTANCE CENTER CLIENTS LEARN HOW TO TRANSLATE THEIR EDUCATION, TRAINING, AND LEADERSHIP SKILLS TO THE PRIVATE SECTOR.

Prior to 1990, the Army transition program consisted largely of a small, government-staffed pilot program at Fort Bragg, North Carolina, to test the concept of equipping soldiers who were transitioning from the Army with the skills necessary to seek and find employment.

dilemma and how a decision to outsource a personnel services program led to contributions to force modernization.

In this case, the Army navigated its way through a labyrinth of regulations, budget reviews, and detailed briefings to get a new program underway that was completely foreign to the military culture – a program to provide for the successful transition of Army personnel from the military to the private sector workforce. The lessons learned from the extensive effort in delving into the myriad of legal issues to meet the formidable regulatory requirements necessary to outsource, may provide insights to other program managers in pursuit of outsourcing initiatives.

Background

Prior to 1990, the Army transition program consisted largely of a small, government-staffed pilot program at Fort Bragg, North Carolina, to test the concept of equipping soldiers who were transitioning from the Army with the skills necessary to seek and find employment. Private corporations experiencing downsizings routinely provide similar services through contracted professional outplacement counseling firms.

The fall of the Berlin Wall in late 1989, the collapse of the Soviet Union, and subsequent plans to significantly reduce the size of the standing Army resulted in a reappraisal of transition efforts.

Plan of Action

It became apparent that DoD downsizing meant that uniformed and civilian personnel who made commitments to a full career with the Army would be involuntarily released. Large numbers

of personnel who were not prepared to find career employment opportunities would be thrust into the private sector. As a solution, the Army took a two-pronged approach. For the first component, the Army decided to use the corporate practice of outsourcing and contracted for the large-scale outplacement counseling program needed to handle over 100,000 transitions a year.[8] A one-year pilot program established standards for the transfer of private-sector outplacement counseling technology and business-style approach to the military environment. Based on results of the pilot program, the Army awarded a $50 million Job Assistance Center (JAC) contract to Resource Consultants, Inc., that launched the outplacement function. It was obvious that market forces were at work — the result was cheaper and faster than the Army could have performed with in-house assets. Within three months of contract award, in the late summer of 1991, 55 JACs located at Army installations throughout the world were fully operational.

The second component of the program consisted of Army civil service specialists who provided referral services to transitioners needing other government-provided services and benefits counseling such as education, veterans information, and legal assistance. The referral services ensured that soldiers completed the Pre-separation Counseling Checklist (DD Form 2648) required by law. The Army leadership grouped the two components of the operation together and titled it the Army Career and Alumni Program (ACAP). The JAC contract provides for standardization in delivery of services and quality control of contract operations throughout the Army in concert with transition services provided by civilian employees. This effort is centrally managed by a small, Total Army Transition Division (TATD) headquarters staff at the U.S. Total Army Personnel Command (PERSCOM).

Results
The Army's outsourced outplacement program has assisted over one-half mil-

lion military transitioners in the intervening five years. Results of JAC evaluation research projects quantified the success of the contract in several ways:

- Since 1992, the Army realized a 35-percent decrease in Army unemployment insurance reimbursements to the Department of Labor, representing a savings of about $70 million per year.[9]
- Soldiers in pay grade of Staff Sergeant (E-6) and below without a college degree who completed the entire JAC program of outplacement training and counseling achieved a starting salary of as much as $7,500 per year more than those who did not receive the services.[10]
- Unemployment among Army veterans who participated in the program was one-half the rate of those who did not take advantage of the services.[11]

Several other demonstration projects are identifying further global benefits in adopting this corporate approach. As an example, the contractor's deployments to Haiti and Bosnia actually avoid costly diversions and degradation to the Army commander's primary mission. Another benefit is that the Army pays for the services only when and where needed. A further benefit of using a contract vehicle is that the Army gains maximum visibility and accountability of *full cost* — as opposed to in-house operations where it is difficult to identify numerous supporting or hidden costs. In general, the JAC contract is a model with a proven track record based on program and financial measures, and outcomes.

What's Next?
The success of the JAC portion of the ACAP program led Army planners to expand the use of the contract to outsource related personnel service and support functions. In early 1995, the Army decided to contract out ACAP civil service specialist and administrative positions in overseas locations.

Contracting out overseas government positions produced immediate cost

savings while minimizing the personnel turmoil for federal employees. Such experienced employees are eligible for programs designed to ease the transition of federal employees. The task to convert the positions and schedule the outsourcing effort was the responsibility of the TATD. The Chief, Paula Davis, summarized the task: "It was a tough call to tell dedicated, hardworking employees that it was time to think about moving on with their careers, returning to the United States, consider changing jobs, retiring, or investigating other options. But the numbers spoke for themselves. I calculated that the government could save over $500,000 per year in Europe alone through a combination of outsourcing and consolidating government and contractor functions. And by planning ahead, we avoided involuntary separations." By the end of Fiscal Year 1996, European civil service specialist and administrative positions will be totally replaced by contractor personnel.

Outsourcing Innovations
In a related effort, the Army chose to activate a current contract provision and offered other Army activities use of the contract to test outsourcing concepts through demonstration projects. In 1995, the Army decided to establish transition centers in Europe and Korea to outprocess personnel from the military, and the contract offered the vehicle to accomplish it. For over 40 years, the Army sent soldiers who were separating from Europe to Fort Dix, New Jersey, or Fort Jackson, South Carolina, and from Korea to Fort Lewis, Washington, for three days of duty to attend mandatory outprocessing briefings and to complete separation paperwork.

The contract permitted the establishment of 16 centers in Europe and three in Korea to accommodate the outprocessing needs of soldiers. The resource savings to the Army were both immediate and apparent. Local processing avoided the cost of an extra air fare from the U.S. transition point to the home of record of the separat-

ing soldier and three days of per diem payments. The Army also gains three extra days of service from the over 8,000 personnel who separate each year from Korea and Europe. The soldier, in turn, benefits from the new service because there is no longer an interruption to the separation trip home — a particularly disruptive situation for a member who is traveling with his or her family.

This cost-efficient and effective demonstration project became an instant success and is very popular with soldiers who now complete outprocessing over a six-month period in concert with other transition services provided by the ACAP centers. According to Brig. Gen. Earl M. Simms, The Adjutant General of the Army, "For years we had been interested in separating soldiers directly from their units in Europe and Korea. The availability of the contract allowed us to do it. Not only is the Army saving scarce funds, but also the separating soldier is spared considerable inconvenience in the process. This initiative demonstrates an effective approach to reducing the non-combat Army, thereby meeting the Army's goal of generating savings necessary for modernization and readiness."

In another innovative use of the JAC contract to reduce the size of the non-combat Army and to gain efficiency, the Office of the Chief, Army Reserve and the Army National Guard Bureau are testing the concept of replacing active duty Non-Commissioned Officers (NCO) with contract personnel to transition soldiers from active duty into the Army Reserve and National Guard. The demonstration project involves the substitution of 21 NCOs in pay grades E-7, E-8, and E-9 with 13 contractor personnel operating out

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of ACAP centers in Europe. This one-year test will conclude in the spring of 1997, and already promises to be a success. Not only can the resulting efficiencies be quantified in terms of salary and manpower savings, but the Army gains the added value of reassigning the 21 senior NCOs to fill critical operational unit vacancies.

The integration of outplacement, transition counseling, transition processing, and in-Service transition to the Reserve Component Services under a single contract manager in each geographical area enables the contractor to take advantage of the synergy associated with combined operations. It permits all four functions to be performed with fewer total personnel than would be required if managed separately.

Therefore, similar to lessons learned in the private sector, the Army tested and is finding that outsourcing of selected, non-core personnel services and support functions reduces costs and improves performance.

Other Agency Applications

The Army also offers use of the contract vehicle to other federal agencies that are interested in taking advantage of and building upon the Army's investment in commercial outplacement services. Early in the program, the Army recognized the need for a mobile capability to service the large numbers of personnel assigned to remote locations. The Navy adapted the mobile capability developed by the Army and applied it to a shipboard environment. Through an inter-Service agreement, the Navy uses the contract to provide for Mobile Job Assistance Teams. These teams offer outplacement services to ships at sea and to remote locations not served by fixed-

site, transition assistance programs. The job assistance computer equipment and software were configured for shipboard use, and Navy traveling teams provide the full range of counseling, workshop, and computer support services.

The National Aeronautics and Space Administration (NASA) satisfied a critical and time-sensitive need to establish outplacement counseling centers by taking advantage of the existing Army contract through an interagency agreement. Two weeks after project initiation, NASA hosted the grand opening of a fully staffed and equipped outplacement counseling center at NASA Headquarters in Washington, D.C. The contractor, together with NASA, quickly established eight additional centers at major NASA locations in the United States. Terri Robinson, NASA's Technical Representative for the project, stated, "We were fortunate that the Army contract was available for our use. It enabled NASA to move quickly to meet new requirements while avoiding the manpower costs and demands that would have been required to get our own agency contract going."

More recently, the Department of Agriculture's U.S. Forest Service used the Army contract to staff and equip an outplacement counseling center at its headquarters in Washington, D.C.

By using an existing contract vehicle, an agency avoids the considerable time and effort to get a separate, competitive initiative underway and the cost of establishing a separate working contract with associated government management and oversight personnel.

The Program as a Reinvention Laboratory — Roadmap to Success

The National Performance Review directed by Vice President Al Gore established initiatives designed to reinvent government. One of the early initiatives was the creation of a Reinvention Laboratory concept to permit

agencies to experiment with new management techniques to enhance government effectiveness and efficiency. In mid-1994, the Secretaries of the Services were delegated the authority to designate Reinvention Laboratories. Under the procedures that established the concept, Reinvention Laboratories are encouraged to undertake new ways to conduct government business and are delegated limited authority to waive obtrusive regulations and instructions that impede business effectiveness and efficiency.

Recognizing the potential for exploring reinventing and reengineering initiatives to obtain savings, the Chief, TATD applied for and received the designation of the program as a Reinvention Lab in mid-1995. In the letter of designation, Secretary of the Army Togo D. West, Jr., delegated the oversight of the lab's progress to the Assistant Secretary of the Army for Manpower and Reserve Affairs, (ASA[M&RA]), Sara E. Lister. West also charged the Commanding General of PERSCOM to "reinvent the comprehensive process of transition assistance and services to increase efficiency and effectiveness." The performance improvement plan, developed in response to this charge, established reinvention program objectives that emphasized cost reduction, service quality improvements, the export of successful new techniques, and the reduction of military and federal employee diversions from non-core and non-combat functions. The TATD lab's five-point strategy for reinvention is as follows:

- *Outsourcing* to reduce the size and cost of the military and civilian infrastructure.
- *Reengineering* to effect economies, service improvements, and new ways to do business.
- *Centralizing* of contract management to effect economies of scale, ensure standardization of service delivery, and quality control of contract operations.
- *Integration* of related service functions to effect total manpower and

resource reductions and consolidation of operations among activities to reduce procurement costs.
- *Customizing* of services to meet the unique needs of each customer using contract operations.

This standard structure serves as a unique framework to measure the effectiveness of the lab's outsourcing and personnel demonstration projects and to determine where outsourcing can lower costs and improve performance. The lab's preliminary findings suggest that similar future demonstration projects will generate substantial cost savings and increased efficiencies. In a broader sense, DoD reached the same conclusions in the March 1996 Report "Improving the Combat Edge Through Outsourcing." "DoD's experience demonstrates that competition and outsourcing have yielded both significant savings and increased readiness for each of the Military Services. As a result of cost comparisons conducted between 1978 and 1994 (under OMB Circular A-76 — the federal guidance on performance of commercial activities), the Department now saves about $1.5 billion a year. On average, these competitions have reduced annual operating costs by 31 percent."[12]

OMB Circular A-76 Implications

Commercial activities are those that can be provided by the private sector and, thus, are subject to a competitive process. Outsourcing of commercial activities of the government is governed by Office of Management and Budget (OMB) Circular A-76. The Circular delineates a process to be followed when considering moving a government function from performance by government employees to contract (and vice versa). In such cases, the agency conducts a detailed cost study to determine the "most efficient organization" to conduct the function. The arduous procedures established for the study require typically 18 to 36 months or more to complete and create inhibiting obstacles for the government manager who is

interested in outsourcing. The renewed emphasis on outsourcing government services by the National Performance Review and the Administration drove OMB to streamline the required procedures. Substantial government-wide interest in taking advantage of waiver provisions in the Circular resulted in the delegation to waive cost comparison studies to the Service Assistant Secretary level when conditions clearly indicate that such an action would be more efficient.

In an effort to gain efficiencies, Forces Command (FORSCOM) recommended that PERSCOM pursue outsourcing the second component of ACAP — those functions performed by civilian employees. Responding to this recommendation, the Chief, TATD, pursued a request for waiver initiative under the program's Reinvention Laboratory designation.

The OMB Circular A-76 requires that the agency conduct a cost study for outsourcing initiatives involving more than 10 employees. This restriction affected the recent FORSCOM recommendation to outsource ACAP specialists and administrative positions in the United States. The ACAP has in excess of 100 government positions program-wide, although the maximum number of positions affected at any one military installation was fewer than 10. The TATD waiver application package contains a "Cost Analysis of the Army Career and Alumni Program's (ACAP) Report."[13] This analysis indicated that a savings of 40 percent in the first year of operation could be achieved by outsourcing the positions. The waiver study truncated the normal 18- to 36-month process to six months, promising to effect current year savings to the

COUNSELORS CONDUCT WORKSHOPS FOR ACTIVE DUTY SOLDIERS, DEPARTMENT OF THE ARMY CIVILIANS, AND THEIR FAMILIES.

As one strategy toward meeting White's goal and that of the Administration, the ASA(M&RA) initiated a follow-on procurement to the existing JAC contract titled DoD Personnel Services and Support (PSS) to be implemented through the Deputy Chief of Staff for Personnel.

Army that can be applied immediately to force modernization.

A Case for Outsourcing — Positioning for the Future

As one strategy toward meeting White's goal and that of the Administration, the ASA-(M&RA) initiated a follow-on procurement to the existing JAC contract titled DoD Personnel Services and Support (PSS) to be implemented through the Deputy Chief of Staff for Personnel. The new procurement was generated, in part, because:

• Recent legislation such as the Federal Acquisition Streamlining Act of 1994 and the Federal Acquisition Reform Act of 1996, enables the Army to adopt improved procurement strategies such as issuing a draft Request for Proposal (RFP) for public comment. The Army used this technique in the DoD PSS Procurement to enhance dialogue with industry, to increase competition, and to eliminate confusion and ambiguity prior to releasing the final RFP.

• The March 1996 revised OMB Circular A-76 identified new rules that removed or eased some of the barriers to outsourcing. The revision inserted a greatly improved and realistic methodology to conducting commercial activities research and cost comparisons and promoted increased use of waivers.

• The Army, as well as other agencies, may capitalize on significant private-sector advancements in technology and gains in expertise in the rapidly expanding knowledge base together with lessons learned through outsourcing. The Army can benefit from one of the key findings of outsourcing — visibility and accountability of

full cost — which the private sector has recognized. It remains difficult to account for all true costs in an in-house provided function. The contractor costs, on the other hand, are fully accounted for through internal financial management controls and represent the total costs for the project.

- The Army's analysis of defining core competencies is nearing completion. Early results indicate that many PSS functions are not core functions. Obviously, outsourcing is not appropriate or desirable in all cases. However, where advantageous conditions exist, the Army stands to gain significantly through successful outsourcing. Through current outsourcing demonstration projects underway within the existing JAC contract and results of other related outsourcing initiatives, the Army has data on these conditions and can apply lessons learned to the DoD PSS contract vehicle as well as other related acquisitions.
- The myth that functions currently performed in house are inherently governmental in nature has been dispelled. The Army successfully challenged this assumption and does not consider all PSS functions as inherently governmental in nature.
- The Army can benefit significantly by competitively procuring services in a highly incentivized commercial market for PSS capabilities. In "Improving the Combat Edge Through Outsourcing," DoD concludes:
  –DoD must continue to reduce its infrastructure and support costs to increase funding for modernization in the coming years. Introducing the competitive forces of the private sector into DoD support activities will reduce costs and improve performance.
  –Outsourcing is not a theory based on uncertain assumptions. Experience in DoD and the private sector consistently and unambiguously demonstrates how the competitive forces of outsourcing can generate cost savings and improve perfor-

mance. One need only glimpse at the operations of our nation's most successful companies to see the dramatic benefits that they realize through outsourcing and competition."[14]

- The Army found through a related research project that benchmarking can augment the OMB Circular A-76 procedures by defining best practices.[15]
- Research findings on the effectiveness of the JAC contract model support the use of a large-scale, centrally managed contract. This model avoids the costly pitfalls of stovepiping by functional area — it provides multiple functions at an installation. This approach enables the Army to attain and maintain a high degree of customer service, workload management by site, and lower operating costs.
- The contract model's emphasis on the use of economies of scale resulted in providing state-of-the-art services and automated support, ensuring high standards at all installations, and infusing continuous efficiencies and improvements at all site operations.

What Are the Implications for DoD Program Managers?

White outlined conditions for outsourcing government services and indicated that the Defense Department will:

- not consider outsourcing activities that constitute core warfighting missions;
- ensure that a competitive market exists for the activity under consideration for outsourcing; and,
- ensure that the outsourcing initiative will result in best value for the government and, thus, the taxpayer.[16]

As to best value, the Deputy Secretary mandated the requirement to conduct a best value analysis in each outsourcing effort. This analysis should evaluate not only cost, but also past performance of bidders to demonstrate

reliability, timeliness, and quality of service delivery.

The one common thread that permeated throughout the 1996 Congressional Authorization and Appropriation Committee hearings on DoD military personnel and readiness was a commitment to outsource as many activities as possible to help offset budget reductions. Both Democratic and Republican members of Congress spoke with one voice as to the desirability to get on with outsourcing projects. There was no doubt that the reinventing government movement knows no political boundaries and will continue its pace, perhaps even accelerate, regardless of the 1996 national election results.

The universal message for program managers is four-fold:

- *Join* the government's reengineering effort.
- *Adopt the shift in paradigms* from relying on in-house resources to relying on industry for goods and services and to identify appropriate candidates for outsourcing.
- *Look beyond program results* to program efficiencies by injecting competition and a private-sector perspective.
- *Obtain support* for designating programs as Reinvention Laboratories.

The common theme is that outsourcing offers the opportunity to:

- ensure a fair and equitable vehicle to deliver the best value to the taxpayer;
- obtain better use of the limited defense dollars to meet force modernization requirements; and
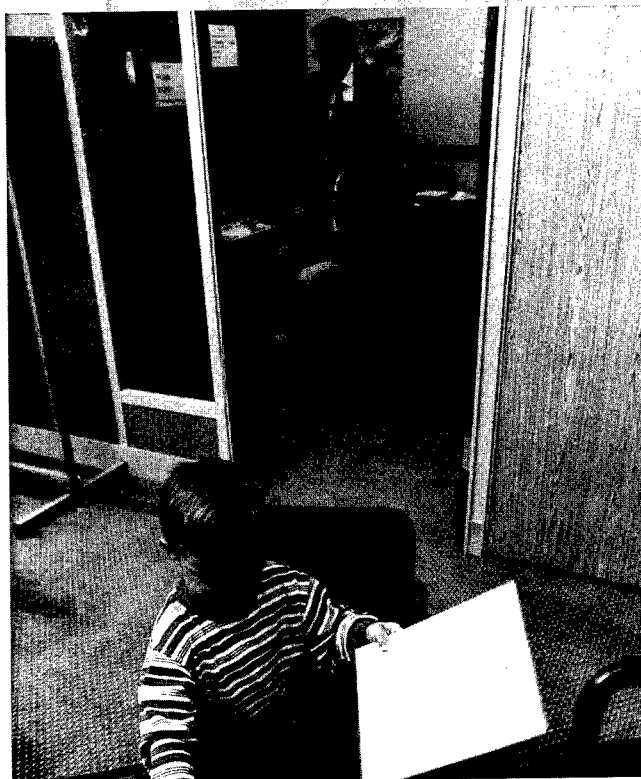- achieve an affordable national defense.

The recent regulatory changes initiated the reverse of the trend of building bigger government. The trend now is to build an environment conducive to successfully implementing the national policy of making government work better, faster, and cheaper. The govern-

ment is doing its part and is preparing to move forward to further simplify the outsourcing process. Now it is up to program managers to use these authorities to take action.

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PROVIDING FOR THE ENTIRE FAMILY, THE JOB ASSISTANCE CENTER AT FORT MONMOUTH, NEW JERSEY, KEEPS A YOUNG MAN HAPPILY OCCUPIED WHILE DAD RECEIVES JOB COUNSELING.

The myth that functions currently performed in house are inherently governmental in nature has been dispelled. The Army successfully challenged this assumption and does not consider all PSS functions as inherently governmental in nature.

Some Potential Benefits of Using Cost as an Independent Variable in Defense Programs

A Step in a Different Direction

DR. EDMUND H. CONROW

Over the past three decades, a wide variety of defense programs have been developed and deployed. Persistent and widespread cost and schedule growth in U.S. military systems has been documented since the 1950s, while system performance is typically very close to desired levels. This is despite several different acquisition strategies and numerous detailed management approaches that have been tried in an attempt to improve the predictability and control of program outcomes.

A Step in a Different Direction

Military hardware development programs typically experience moderate cost and schedule growth when actual values following completion of the development phase are compared to earlier estimates near the start of Engineering and Manufacturing Development (EMD). Evaluation of a large sample of Department of Defense (DoD) programs, indicates a large percentage of programs (80+ percent) with cost or schedule growth, and on average, a moderate level of cost and schedule growth for each program; even in the EMD phase (25 percent).[1] Furthermore, no significant change in cost or schedule growth has occurred versus time from the 1960s through at least the early 1990s.

Figure. **Microprocessor Price Versus Performance**
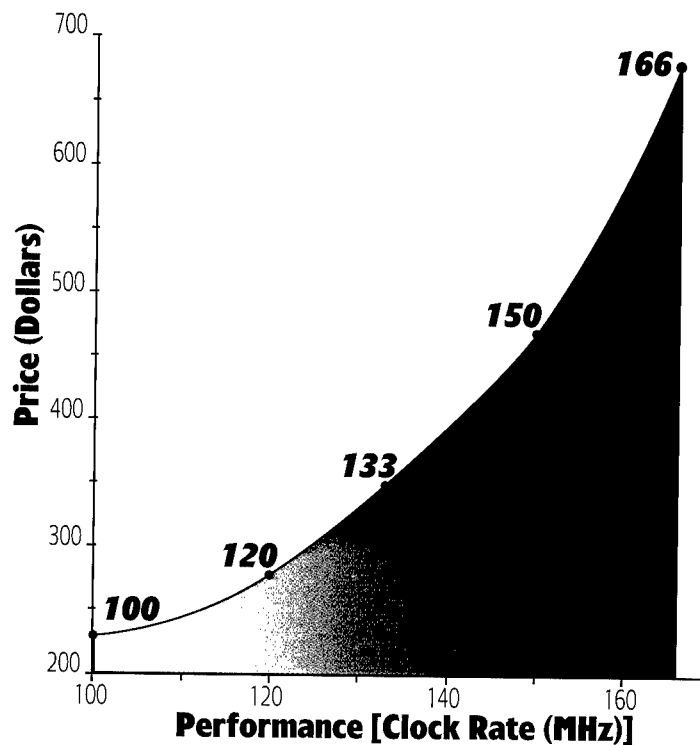
The numerous acquisition reforms and management improvements that have been implemented on defense programs since the 1960s have no doubt helped to contain cost and schedule growth. However, they have generally not effectively addressed impacts resulting from an acquisition process that has often been focused on system performance, with less importance on cost and schedule. The

recent (1995) OSD cost as an independent variable (CAIV) initiative takes a step in a different direction – it attempts to address several key issues that can lead to increased program cost and schedule.

In the remainder of this article I discuss some typical issues that contribute to cost and schedule growth in defense programs and how the OSD

CAIV initiative can reduce the impact of them.

Some Issues that Increase Defense Program Cost and Schedule

Some typical contributors to military development program cost and schedule growth are:

- a performance-dominated requirements specification process that begins early and is rigidly maintained through much of the development;
- a development process that is performance-driven;
- a design that is near the feasible limit of performance that can be achieved at a given time;
- uncertain and optimistic assessment of the feasible limit of performance that can be achieved in a design for a given cost and schedule; and
- major program design decisions being made before the relationship between cost, performance, and schedule (C,P,S) is understood.[2]

The common thread running through these problem areas is that the design is "pushed" in the direction of increased performance, which often translates into unexpectedly higher levels of program cost, schedule, and risk. By the time these difficulties are identified, limited design flexibility often exists, and resulting workarounds further impact program cost and schedule. (Other issues can impact program cost and schedule outcomes, which are not discussed here due to space constraints. For example, an inadequate budget and schedule may exist for the desired level of performance when the program is initiated.)

Each of the five items mentioned above generally contributes to:

- overoptimism in establishing and estimating adequate program cost and schedule levels for the desired performance;
- underestimation of cost and schedule risk; and

- an eventual increase in program cost and schedule during the development phase.[3]

The following paragraphs illustrate how several of these factors can lead to increased program cost and schedule through an unrealistic design. (This design could, hypothetically, result from performance-dominated requirements specification or a development process that favors performance.)

Price versus performance data were collected for a common microprocessor from a vendor in April 1996 and are plotted in the Figure accompanying this article. The circuit price varied solely with a single measure of performance—microprocessor clock rate (speed in megahertz [Mhz]). In this case, the last 11 percent of performance (150 to 166 MHz clock rate) leads to a 45-percent increase in processor price ($469 to $678 dollars). If the development phase design is near the upper limit of achievable performance (166 MHz here), then significant increases in development and/or production phase cost and/or schedule can result from a small increase in performance. In addition, designs below or to the right of the curve are infeasible at a given point in time. (Designs above or to the left of the curve are feasible but inefficient.)

For this example, had the original design included a 166-MHz processor with a $469 price, the resulting design would have been infeasible and required an increase in price (to $678), a decrease in performance (to 150 MHz), or some combination of these two adjustments to be on or above the curve and become feasible. This is indicative of a design with an uncertain and optimistic assessment of the level of performance that can be achieved. However, since confident relationships between cost or schedule versus performance (as in the Figure) are generally unknown until well into the development process, setting an overly aggressive level of design performance can substantially increase program risk. (Similar cost versus perfor-

mance relationships exist for a variety of commercial and military prototypes, production items, items at higher levels of integration, e.g., a sensor, and often entire development programs.)

The following paragraphs discuss how DoD policy on CAIV can potentially help to reduce program cost and schedule by addressing the five issues mentioned above.

Requirements Specification

A principal part of OSD CAIV policy is "a far stronger user role in the process through participation in setting and adjusting a program's goals throughout the program, particularly in the cost-performance trade-off process."[4] Warfighter requirements should be met, but through the use of performance rather than requirements specifications, allowing the trade-off of design parameters and features versus cost.[5] In addition, program managers, "will be empowered to authorize performance or engineering and design changes as long as the threshold values in the Operational Requirements Document (ORD) and Acquisition Program Baseline (APB) can be achieved."[6] Finally, "cost objectives shall be set to balance mission needs with projected out-year resources."[7]

This aspect of CAIV policy has the potential to insure more realistic and effective requirements via greater user participation and the ability to trade off most requirements. It also has the potential to decrease program cost (and possibly schedule) by using performance rather than requirements specifications and balancing mission needs versus program cost objectives.

Performance-driven Development Process

Another key part of OSD CAIV policy is that cost should be a major driver[8] and must be viewed as an independent variable.[9] In addition, "the CAIV approach formalizes the process for cost-performance trade-off and better connects the user, supporter, and developer to facilitate effective trade-

offs, arriving at an affordable balance among performance and schedule."[10]. Similarly, the "CAIV approach facilitates the process of making trade-offs among performance, schedule, and costs."[11] Likewise, DoDD 5000.1 states that "acquisition managers shall establish aggressive but realistic objectives for all programs and follow through by trading off performance and schedule, beginning early in the program (when the majority of costs are determined), to achieve a balanced set of goals."[12]

This aspect of CAIV policy clearly specifies the need for cost to be a major driver, an independent variable and part of a balanced trade process with performance and schedule. It also has the potential to decrease program cost (and possibly schedule) by eliminating performance-driven development.

Less Stressing Designs

Another aspect of CAIV policy is that techniques should be considered that have the potential to reduce cost risk and cost by moving the design away from the infeasible region of the cost-performance relationship, as well as the steep portion of this curve. This can be accomplished by a number of techniques, including the potential use of:

- design simplification to reduce complexity;
- mature manufacturing processes to increase yield and decrease cost; and
- improved technology to reduce cost.[13]

(Design simplification was used extensively in the former Soviet Union to yield designs away from the near vertical portion of the cost-performance feasibility curve.[14])

This aspect of CAIV policy suggests solution points be moved away from the steep portion of the cost-performance curve, let alone the infeasible region. The resulting design can potentially have noticeably lower cost

and schedule for a minor decrease in performance.

Uncertain and Optimistic Designs

Another aspect of CAIV policy relates to the level of risk associated with designs. Dr. Kaminski's December 4, 1995 memo states: "Risks in achieving both performance and aggressive costs goals must be clearly recognized and actively managed through continuing iteration of cost/performance/schedule/risk trade-offs, identifying key performance and manufacturing process uncertainties, and demonstrating solutions prior to production."[15]

This CAIV tenet has the potential to reduce over-optimism in setting the design, which can eventually lead to decreased program cost and schedule, by requiring that risks be recognized, administered through a proactive risk management process, and requiring viable risk mitigation activity.

Major Project Decisions Occur Before C,P,S Relationship Understood

Another key aspect of CAIV is that aggressive and realistic cost objectives are to be set early in the program (Concept Development of Demonstration/Validation phase).[16] In addition, "the government should apply the results of cost/performance trade-offs in contracts early in the process, preferably before down-selection."[17] Similarly, acquisition managers shall "establish aggressive but realistic objectives for all programs and follow through by trading off performance and schedule, beginning early in the program (when the majority of costs are determined)."[18]

This CAIV tenet has the potential to reduce program cost by having the cost-performance trade process begin early in the development phase, thus reducing the odds that unforeseen problems (e.g., due to an infeasible design) will occur later in the program when potentially large increases in cost and schedule may result.

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8. Kaminski, Dr. Paul G., "Reducing Life Cycle Costs for New and Fielded Systems," OUSD(A&T) Memorandum w/2 Atch, December 4, 1995.
9. "Defense Acquisition," DoDD 5000.1, March 15, 1996.
10. Kaminski, Dr. Paul G., "Reducing Life Cycle Costs for New and Fielded Systems," OUSD(A&T) Memorandum w/2 Atch, December 4, 1995.
11. Ibid.
12. "Defense Acquisition," DoDD 5000.1, March 15, 1996.
13. Kaminski, Dr. Paul G., "Reducing Life Cycle Costs for New and Fielded Systems," OUSD(A&T) Memorandum w/2 Atch, December 4, 1995.
14. Conrow, Edmund H., "A Microeconomics Analysis of Soviet Military Systems Acquisition," Proceedings of the 1995 Acquisition Research Symposium, Defense Systems Management College, 1995.
15. Kaminski, Dr. Paul G., "Reducing Life Cycle Costs for New and Fielded Systems," OUSD(A&T) Memorandum w/2 Atch, December 4, 1995.
16. Ibid.
17. Ibid.
18. "Defense Acquisition," DoDD 5000.1, March 15, 1996.

Defense Systems Acquisition Management Process Chart

Paul McIlvaine

The DSMC Defense Systems Acquisition Management Process Chart has been recently updated, based on the March 15, 1996 promulgation of DoDD 5000.1 and DoDR 5000.2-R. This marks the fifth evolution of this highly successful chart that has been distributed to over 40,000 students and members of the acquisition community to date. First published in the January–February 1986 issue of *Program Manager* Magazine, the chart is used as an integration aid in many of our DSMC Courses. It has also been used by the Air Force Institute of Technology; Army Logistics Management College; Army Engineer School; Air Force Operational Test and Evaluation Center; University of Maryland; Computer Science School at Fort Gordon; University of Southern California; and the Industrial College of the Armed Forces (Senior Acquisition Course).

The chart is designed to serve as a convenient roadmap of acquisition functions throughout the systems life cycle. Based on policies and current best practices, the chart summarizes (in time sequence) the key events, activities, players, and documents used throughout the systems life cycle.

A DSMC Process Action Team, representing the government acquisition disciplines, completed this effort and consisted of the following:

Paul McIlvaine — Team Leader

Bill Bahnmaier	Don Fuji	Bill Motley	Chuck Cochrane
Barry Eller	John Horn	Paul McMahon	Art Dehnz
Paul Sabina	Frances Valore	George Prosnik	John Claxton

Shortly, the College plans to put the chart online as part of its DSMC Home Page on the Internet (http://www.dsmc.dsm.mil). Government personnel interested in obtaining a copy of this chart may send a written request to the following address:

> DEFENSE SYS MGMT COLLEGE
> ATTN AS PR
> 9820 BELVOIR RD
> SUITE G38
> FT BELVOIR VA 22060-5565

Government personnel may also telefax their requests on official stationery to (703)805-3726.

Nongovernment organizations and employees may order the chart by contacting the Government Printing Office (GPO) at (202) 512-1800. Request GPO Stock No. 008-020-01402-8. Telephone credit card orders can be made 8 a.m. to 4 p.m. eastern time, to (202) 512-1800. Orders can be telefaxed 24 hours a day to (202) 512-2250.

Should you have any questions regarding the chart or how to obtain a copy, please call the DSMC Press (703) 805-3056 or DSN: 655-3056.

Polish Military Bureau of Standards Delegation Visits DSMC

DSMC Commandant, Army Brig. Gen. Richard A. Black, presents a copy of the DSMC 25th Anniversary History Book to Andrzej Zurek, Deputy Director of the Military Office for Standardization, Polish Military Bureau of Standards. Black hosted the Polish delegation at the College's main Fort Belvoir, Virginia, campus on August 27, 1996. The delegation was visiting the United States to receive an orientation on, and discussion of, several topics: regulations and policies establishing the Milstandard system; the implementation and control of the Milstandard system; the organizations and relationships for executing the Milstandard system; the economic costs associated with having a Milstandard system in terms of development, procurement, and internal system operations; and the role of the Technical Data Package List. Pictured from left: Black; Zurek; Andrzej Harembski, Military Office for Standardization, Ministry of National Defence; and Miroslaw Borzecki, Head of Standardization Division, Ministry of National Defence.

Program Managers Symposium '96

Government and Industry— Partners in Reform

ED ROBINSON

If you missed the 13th Annual Defense Systems Management College Alumni Association (DSM-CAA) Program Managers Symposium, June 17-19, at Fort Belvoir, Virginia, you missed another great opportunity. The theme this year was "Government and Industry—Partners in Reform." Frank Varacalli was in charge of putting together the program and chairing the event for the second year in a row. Lyn Dellinger again provided another excellent series of workshops, complete with published proceedings.

Job Fair Scores a Hit

The newest addition to the symposium for the last two years has been our "Acquisition Expo" on the afternoon of the third day. In reality, our "Expo" has been a free Job Fair, with refreshments and networking, sponsored by the Association for its members. Members need not register for the symposium to attend the Job Fair.

Navy Comdr. Jim Keim again organized and coordinated the industry participants with booths from 17 area companies looking for acquisition-related skills. We plan to continue to provide this service to both industry and Association members, free of charge, as a benefit of Association membership.

Symposium Highlights

Highlights of the symposium included the keynote address by R. Noel Longuemare, Principal Deputy Under Secretary of Defense (Acquisition & Technology). Longuemare discussed the reengineering of defense acquisition, from his current, and former industry, perspective. Also our new Commandant, Army Brig. Gen. Richard Black, introduced himself to the membership with his "State of the College" message. Black is a committed supporter of the Alumni Association and the ongoing alumni initiatives toward a DSMC Foundation, discussed in a succeeding section of this article. An Industry Executive Panel, keyed to this year's theme, offered a unique industry perspective of industry's expectations from acquisition reform.

Office of Federal Procurement Policy (OFPP) Administrator, Dr. Steve Kelman, again presented his government-wide view of reform. Kelman has an active Federal Acquisition Regulation (FAR) revision discussion forum on the World Wide Web, accessible through the Acquisition Reform Net:

FAR Revision Discussion Forum:
   http://www.ARnet.gov
Dr. Steve Kelman (E-mail):
   kelman_s@al.eop.gov

Colleen A. Preston, Deputy Under Secretary of Defense (Acquisition Reform), addressed the Symposium dinner banquet from the perspective of having achieved the "end of the beginning" of the acquisition reform process. The recent achievements that have been structured in acquisition reform, under her guidance and initiative, starting from her earlier position as General Counsel to the House Armed Services Committee and her support for the Section 800 panel, have been nothing short of monumental in scope. From my perspective, as one who has participated in and observed the acquisition streamlining/reform activities for over 20 years, it appears that she has accomplished the impossible, exceeding the expectations of a multitude of serious doubters.

The new DoD 5000 series and the new Defense Acquisition Deskbook CD-ROM documentation are major milestones leading into the next phase of the reform process. This phase will focus on innovation in implementing acquisition strategies, as encouraged by the new regulatory process. Preston's transcripted remarks to the Symposium are presented in the Alumni Newsletter, with her permission. She welcomes comments and suggestions on the reform process and may be contacted as follows:

E-mail:
   prestoca@acq.osd.mil
Telefax:
   (703) 695-2760

Program Managers Symposium '97

This year the DSMC celebrated the 25th Anniversary of its founding with a formal ceremony at the college. The Association provided financial support in several areas to help the College mark this major milestone. Next year will mark the 14th Anniversary of the

establishment of the DSMC Alumni Association and our 14th Annual Acquisition Program Managers Symposium at Fort Belvoir, Virginia. Please mark your calendars for **May 5-7, 1997,** and plan to be at the DSMC for this event. The earlier date is based upon the new three-per-year Advanced Program Managers Course schedule and classroom availability for the symposium. We plan to continue the price reduction that we implemented this year, as an increased value of Association membership. It's the best Defense Acquisition Workforce Improvement Act (DAWIA) acquisition learning opportunity available.

We will soon implement a DSMCAA Home Page on the World Wide Web. We expect that members will be able to register on the Web for Symposium '97, as well as place their qualifications in a DSMCAA-sponsored job bank and membership database. These are a few of several additional member services that we hope will convince you that DSMCAA membership is a must for the entire professional DAWIA workforce.

The theme of Program Managers Symposium '97 will be "Innovative Practices in Defense Acquisition." The theme reinforces the current focus on using the latitude now offered and encouraged by the new DoD 5000 series and the tools now available in the new Defense Acquisition Deskbook. It is expected that they will foster innovations in developing and implementing innovative strategies and best practices that will more quickly provide better and cheaper acquisition systems to our forces. A new highlight of the symposium will be the presentation of the first annual "DSMCAA Packard Award for Innovative Practices in Defense Acquisition," by the Under Secretary of Defense (Acquisition & Technology). The new DSMCAA Packard Award is discussed in a succeeding section of this article.

Consistent with the incorporation of Information Systems into the new DoD 5000 series, we plan to invite key

Full DSMCAA membership is now authorized for graduates of all DSMC courses, and other Defense Acquisition University and industry graduates are welcomed as associate members.

DoD leadership to speak in the C⁴I area, including industry software legend and Microsoft founder and Chief Executive Officer, Bill Gates, to speak at our banquet. The proposed subject will be "Information Technology as a Tool for Innovation in Defense Acquisition."
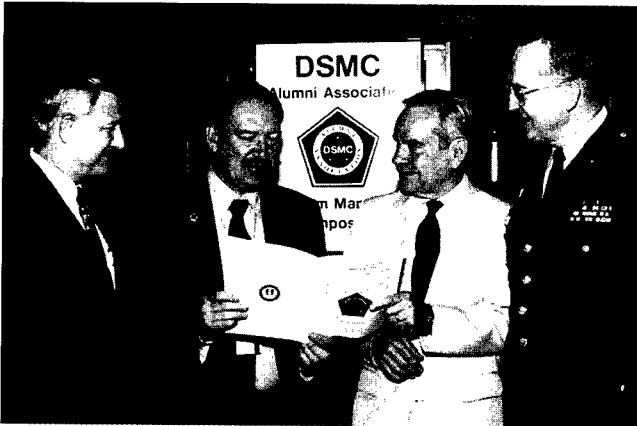
We will return to our Program Managers Panel format, with Army, Navy, Air Force, Marine Corps, and Industry Program Managers, from all ACAT levels, including a Program Executive Officer. We plan to include congressional representatives and staffers for our traditional congressional update on key and pending legislation. Our Service Acquisition Panel will offer current perspectives on the results of successful innovation in acquisition programs.

Preston will address "The Acquisition Revolution in Being—Where Do We Go From Here?" And OFPP Administrator Kelman, will address "Innovative Practices in Federal Acquisition— Implementing FARA and ITMRA 96." We have an exciting program planned to touch all the bases in acquisition innovation.

About Membership

This year I'd like to again take advantage of our formal and informal networks to get the word out to as many alumni as we can possibly reach. Full DSMCAA membership is now authorized for graduates of all DSMC courses, and other Defense Acquisition University and industry graduates are welcomed as associate members. To those of you who are current members of the DSMCAA, please help us get the word out early through your formal and informal networks to as many alumni as we can possibly reach. Encourage friends and classmates to plan early to attend. Our goal is to attract a full house of 300 attendees. The Symposium is intended to foster the goals of the DAWIA. By reaching out to eligible non-members, the organization can better serve not only its members, but the entire professional acquisition workforce as well as industry.

GILBERT F. DECKER, ASSISTANT SECRETARY OF THE ARMY (RESEARCH, DEVELOPMENT, & ACQUISITION) PRESENTS THE "ARMY VIEW OF THE GOVERNMENT-INDUSTRY PARTNERSHIP."

◄ ALUMNI ASSOCIATION PRESIDENT WAYNE GLASS; TOM MADAY, NAVAL AIR STATION PATUXENT RIVER ALUMNI CHAPTER PRESIDENT; KEYNOTE SPEAKER R. NOEL LONGUEMARE, PRINCIPAL DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION & TECHNOLOGY); AND ARMY BRIG. GEN. RICHARD A. BLACK, DSMC COMMANDANT, REVIEW THE AGENDA FOR THE SYMPOSIUM.
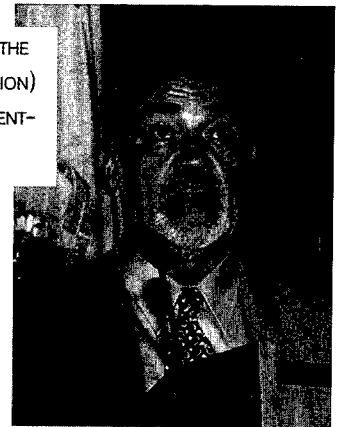
MARVIN LANGSTON, NAVY SERVICE ACQUISITION EXECUTIVE REPRESENTATIVE AND DEPUTY ASSISTANT SECRETARY (C4I/EW/SPACE PROGRAMS) SPEAKS ON "SERVICE EXPECTATIONS OF INDUSTRY."

► ARMY BRIG. GEN. RICHARD A. BLACK, DSMC COMMANDANT, COLLEEN A. PRESTON, DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION REFORM); AND WAYNE GLASS, PRESIDENT, DSMC ALUMNI ASSOCIATION, DISCUSS ACQUISITION REFORM TRAINING ISSUES AT THE CONCLUSION OF BLACK'S "STATE OF THE COLLEGE" SPEECH.

▼ BLAISE DURANTE, DEPUTY ASSISTANT SECRETARY OF THE AIR FORCE (MANAGEMENT POLICY AND PROGRAM INTEGRATION) SPEAKS ABOUT "SERVICE EXPECTATIONS OF INDUSTRY."

DSMC ALUMNI ASSOCIATION BOARD OF DIRECTORS. SEATED FROM LEFT: ED ROBINSON, IMMEDIATE PAST PRESIDENT AND CURRENT VICE PRESIDENT OF THE SYMPOSIUM; JOANNE BARECCA, DIRECTOR; WAYNE GLASS, PRESIDENT; LYN DELLINGER, VICE PRESIDENT FOR MEMBERSHIP; TEL CHARLAND, DIRECTOR. STANDING FROM LEFT: GARY WIMBERLY, DIRECTOR; PAUL BACKS, TREASURER; PAUL MCMAHON, DIRECTOR; FRANK VARACALLI, VICE PRESIDENT OPERATIONS; ARMY COL. WILLIAM E. KNIGHT, CHIP LINNEMAIER, SECRETARY.

Photos by Richard Mattox

DEFENSE ACQUISITION UNIVERSITY PRESIDENT THOMAS M. CREAN (CENTER), SPEAKER ON "EDUCATING THE ACQUISITION WORKFORCE," REVIEWS SYMPOSIUM LITERATURE WITH WAYNE GLASS, PRESIDENT, DSMC ALUMNI ASSOCIATION (LEFT); AND ED ROBINSON, VICE PRESIDENT OF THE SYMPOSIUM (RIGHT).

STEVEN KELMAN, ADMINISTRATOR FOR FEDERAL PROCUREMENT POLICY GIVES "A GOVERNMENT-WIDE VIEW OF REFORM."

► FROM LEFT: DURING THE JOB FAIR AT THE ANSER BOOTH, CECI FRENCH AND TOM PAINTER TALK TO ATTENDEES.

◄ DELORES "DEE" SMITH, DIRECTOR OF ELECTRONIC COMMERCE, OFFICE OF THE DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION REFORM), PRESENTS "ELECTRONIC COMMERCE— A SUCCESS STORY."

DSMC ALUMNI ASSOCIATION BOARD OF ADVISORS. FROM LEFT: AIR FORCE COL. (RET) TIM COURINGTON; NAVY VICE ADM. WILLIAM C. BOWES, PRINCIPAL DEPUTY ASSISTANT SECRETARY OF THE NAVY (RESEARCH, DEVELOPMENT, AND ACQUISITION); ARMY GEN. (RET) DONALD R. KEITH; ARMY COL. (RET) ED ROBINSON; ARMY BRIG. GEN. RICHARD A. BLACK, ALUMNI CHAIRMAN; ARMY LT. COL. (RET) WAYNE GLASS; AIR FORCE LT. GEN. (RET) BILL THURMAN; DAVID S.C. CHU; AIR FORCE LT. COL. (RET) CHUCK TRINGALI. NOT SHOWN: COLLEEN A. PRESTON, DEPUTY UNDER SECRETARY OF DEFENSE (ACQUISITION REFORM); AND AIR FORCE GEN. LAWRENCE A. SKANTZE.

PERRY B. TEETS, PRESIDENT AND CHIEF EXECUTIVE OFFICER, INFORMATION TECHNOLOGY SERVICES SECTOR, LOCKHEED MARTIN CORPORATION, SPEAKS AT THE SYMPOSIUM LUNCHEON.

It is remarkable that as living organisms grow old they also grow increasingly brittle. Without the vigor and flexibility of youth, they may no longer bend to the winds of change, but break to the core instead.

This is also true of the living groups we call human organizations, whether they're formed to market consumer goods or to develop and procure the instruments of war. Thankfully, we know that within an organization change itself can be invigorating, and that flexibility can save, not sacrifice, the core values that give meaning to our work.

Acquisition Reform is just such an invigorating change. Yes, our core values remain: The security of our citizens and the stewardship of their tax dollars are as basic to what we do as ever before. This, then, is no revolution, no *revanchement* imposed upon the acquisition bureaucracy. Rather, it is a limbering up our thought processes, a new *regimen* that will allow us to act with vigor and flexibility into the future.

Consider that moment of exhilaration known to every weekend sailor, when, on clearing the harbor lights, the engine falls silent, the sails are run up, the wind rises and, without benefit of fuel, one is swept on to one's goal. Who would lament the fact that, having had more funds, one might have brought along more gasoline?

We are living at such a moment. When the Chairman of the Joint Chiefs of Staff says, as General Shalikashvili recently did, that this nation simply must have forces that are both ready *and* technologically superior, I know that the response of the acquisition community will be to run up the sail, rather than point to the gas can.

At DSMC, that hope is an expectation. I simply can't imagine that we'll fail to meet the challenges posed by declining budgets, accelerating technology, unforeseen threats to national security, new theories of communicating knowledge, and all the rest. Sailing into the future won't always be smooth. But it won't be beyond our grasp.

For DSMC much of the future will involve *distance learning*. If this conjures up a remembrance of "Sunrise Semester," let me suggest instead that our's is a particular future which, much like the broader future everywhere, will be built on what has gone before. We have long taught workers and then sent them on to their workplaces. When they arrived they, in turn, disseminated what they'd learned...*at a distance*. In workplaces across the country and around the world, our students serve also as teachers, and their managers at times as students. The learning is spawned here, but multiplies everywhere.

This, then, is what I mean by distance learning. We must reorient ourselves to the larger classroom beyond our campus. I should also emphasize that, as I've alluded to above, the means for transmitting knowledge in this new context remains most often human, not electronic. Nevertheless, where technology will help us to reach more people, more quickly, and at less cost, we'll pursue it as well. As I write this, DSMC is developing a computer-based training version of our Basic Software Acquisition Course. Our intent is not to celebrate the computer, but to empower more people.

Vigor and flexibility will characterize the future of DSMC and the acquisition community as a whole. I'm convinced that as a result of reforms, we are equal to the challenge.

The wind is up. It's time to set sail!

—Brig. Gen. Richard A. Black, USA
   Commandant

Surfing the Net

An Internet Listing Tailored to the Professional Acquisition Workforce

DEPARTMENT OF DEFENSE

Under Secretary of Defense (Acquisition & Technology) (USD[A&T])
http://www.acq.osd.mil/HomePage.html

Deputy Under Secretary of Defense (Acquisition Reform) (DUSD[AR])
http://www.acq.osd.mil/ar

Acquisition Systems Management (Defense Acquisition Board [DAB] Executive Secretary)
http//:www.acq.osd.mil/api/asm/

DoD Acquisition Workforce Home Page
http://www.dtic.dla.mil/acqed2/acqed.html

Defense Acquisition Deskbook
http://deskbook.osd.mil/deskbook.html

Defense Acquisition University (DAU) and Acquisition Reform Communications Center (ARCC)
http://www.acq.osd.mil/dau

Army (DCS for Acquisition, AMC)
http://www.dtic.dla.mil/amc/acq/acqmenu.html

Army Acquisition Corps
http://www.army.mil/aac-pg/aac.htm

Army Acquisition Executive
http://www.sarda.army.mil/

Navy Acquisition Reform
http://www.acq-ref.navy.mil/

Air Force (Contracting)
http://www.hq.af.mil/SAFAQ/contracting/

Air Force (Acquisition)
http://www.safaq.hq.af.mil/SAFAQ

AFMC Contracting Laboratory's Far Site
http://farsite.hill.af.mil/

Coast Guard
http://www.dot.gov/dotinfo/uscg/welcome.html

Defense Advanced Research Projects Agency (DARPA)
http://www.arpa.mil

Defense Information Systems Agency (DISA)
http://www.disa.mil

Defense Mapping Agency (DMA)
http://www.dma.gov

Defense Modeling & Simulation Office (DMSO)
http://www.dmso.mil

Defense Technical Information Center (DTIC)
http://www.dtic.dla.mil/

DoD Electronic Commerce Office (EC/EDI)
http://www.acq.osd.mil/ec/

National Security Agency (NSA)
http://www.nsa.gov:8080/

FEDERAL CIVILIAN AGENCIES

ARNET (a joint effort of the National Performance Review and Office of Federal Procurement Policy):
http://www.arnet.gov/

Federal Acquisition Institute (FAI)
http://www.gsa.gov/staff/v/training.htm

FAI/ARCC Joint Site
http://www.gsa.gov/staff/v/homepages/broadcast.htm

General Accounting Office (GAO)
http://www.gao.gov

General Services Administration (GSA)
http://www.gsa.gov

Government Printing Office (GPO)
http://www.access.gpo.gov/su_docs/

National Performance Review (NPR)
http://www.npr.gov/

National Technical Information Service (NTIS)
http://www.fedworld.gov/preview/preview.html

Small Business Administration (SBA)
http://www.SBAonline.SBA.gov

White House
http://www.whitehouse.gov

INDUSTRY AND PROFESSIONAL ORGANIZATIONS

Commerce Business Daily
http://www.govcon.com/

Electronic Industries Association (EIA)
http://www.eia.org

National Association of Purchasing Management (NAPM)
http://www.napm.org/

National Contract Management Association (NCMA)
http://www.ncmahq.org

Society Of Logistics Engineers (SOLE)
http://www.telebyte.com/sole/sole.html

TOPICAL LISTINGS

ACQWEB Index of Offices by Title
http://www.acq.osd.mil/acqweb/topindex.html

DoD Specifications & Standards Home Page
http://www.acq.osd.mil/es/std/stdhome.html

Electronic Commerce Resource Centers
http://www.ecrc.gmu.edu/location.html

FAR, Circulars & Supplements from GSA
http://www.gsa.gov/far

Fedworld Information
http://www.fedworld.gov

Single Process Initiative (SPI) Information
http://www.dcmc.dcrb.dla.mil

If you have questions about the above sources, or would like to add your Website to this list, please call the Acquisition Reform Communications Center (ARCC) at 1-800-747-ARCC.

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